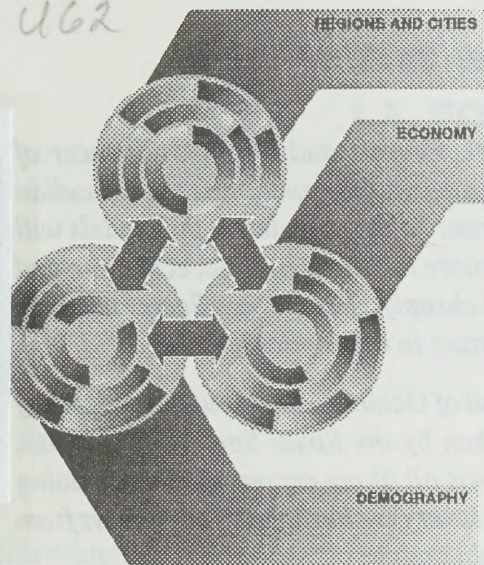


UPDATE NUMBER FIVE

THE REVIEW OF DEMOGRAPHY AND ITS IMPLICATIONS FOR ECONOMIC AND SOCIAL POLICY



THE RESEARCH FINDINGS EMERGE

The Review of Demography and Its Implications for Economic and Social Policy, launched by the government of Canada in May 1986, has now completed the second stage of its work. This stage began in June 1987 when a number of major research projects were commissioned to add to the scientific knowledge that would form the basis of the Review's final report. It ended in December 1988 with a symposium sponsored by the Royal Society of Canada, bringing together researchers and reviewers. Update Number Four (spring 1988) gave an early account of these research projects. Update Number Five completes the story by describing our activities during this time and by presenting the Royal Society of Canada's overview of the symposium together with extensive summaries of the second stage research projects prepared by the researchers.

The Review Secretariat encouraged research teams to present work in progress for the criticism of their colleagues whenever possible. Projects being undertaken for the Review were well represented and generally favourably received at meetings and symposia across the country, including the meetings of the Association canadienne-française pour l'avancement des sciences in Moncton in May 1988 and the Learned Societies in Windsor in June 1988, and more specialized conferences such as the National Symposium on the Demography of Immigrant Racial and Ethnic Groups in Canada at the University of Manitoba, Winnipeg, in August 1988.

The Review Secretariat continued to consult on the work being undertaken for it with federal and provincial government colleagues and with representatives of the public, including business, labour, ethnocultural and social-policy groups. The Review Secretariat was able to take advantage of an opportunity to present the innovative aspects of the Review's work to a seminar of senior government officials of francophone African countries sponsored by the United Nations at the University of Chicago, opening a potential avenue of technical cooperation between Canada and that region of the world.

The Review continued to support Frank T. Denton, Christine H. Feaver, and Byron G. Spencer of McMaster University in the development of MEDS, a set of integrated models simulating the Canadian population, economy, and government expenditures in the long run. When completed, the models will allow virtually anyone with access to a personal computer to explore the demographic, economic and social implications of a broad range of assumptions quickly and cheaply. The Review Secretariat has been using prototypes of the models in its own work and is assisting in other pilot tests.

The second-stage research projects were all completed by the end of October 1988, and the process of accelerated peer review described hereafter was then undertaken by the Royal Society of Canada, leading to the symposium of December 1-2, 1988. The Review has all along encouraged those doing research for it to publish their findings in refereed publications. It is very encouraged by early news from a number of scholars that their studies are now in process of publication.

The highly successful conclusion of the second stage must be credited to the many dedicated scholars who were willing to participate in a process that was out of the ordinary, not least in the rigid timeframes it imposed and the many extra burdens that it placed upon them for little more reward than the knowledge that they were contributing to the public good. The Review Secretariat would like to take this opportunity to thank all those who assisted it during this stage.

The task of the Review is to present an integrated account of all the scientific evidence for long-term interactions between a changing population and a changing economy and society. The second-stage research projects form only a small part of that evidence. As a result, the summaries that follow cannot by themselves serve as guides to the population issues being addressed by the Review; that would require a structured account of all the evidence available, an account that will be prepared by the Review.

The Review Secretariat continues to be interested in hearing all relevant evidence and the views of all concerned parties. Our address is: Review of Demography and Its Implications for Economic and Social Policy, Health and Welfare Canada, Ottawa, Ontario K1A 0K9; and our telephone number is (613) 957-2956.



THE ROYAL SOCIETY OF CANADA LA SOCIÉTÉ ROYALE DU CANADA

Introduction

The twenty-six research projects summarized in this volume were commissioned by the Federal Government as part of the second stage of the three-year Review of Demography and Its Implications for Economic and Social Policy conducted by the Minister of National Health and Welfare. In the first stage of the program 118 preliminary working papers were produced, ten of which were published in *Canadian Studies in Population*, 14 (2), 1987. Topics which required further study were identified and a call by the Minister of Supply and Services on behalf of the Review led to 102 proposals for major research projects being submitted. The second stage studies were selected from these proposals.

The Royal Society was asked to play a key advisory role throughout the second phase of the program, beginning in May, 1987 with an assessment of the scientific merit of the 102 proposals. A small expert committee consisting of Mme Madeleine Blanchet, Prof. Bernard Bonin, Prof. Susan McDaniel and Prof. Anthony Richmond was convened under the chairmanship of Prof. Karol Krótki, and carried out its review on May 13-15, 1987. In the following months the Society maintained a lively interest in the Review, following its progress as given in interim reports and in the series of Updates published by the Review Secretariat. As the 26 major studies approached completion the Society agreed to organize a peer evaluation of the scientific results of the Review by assessing the final reports in detail. The panel responsible for the initial review of proposals met in July, 1988 and recommended that a further group be formed to carry out the final evaluation. As in the case of the first panel, experts were appointed to cover the full range of disciplines and interests represented in the Review. This report gives a brief outline of the results of the evaluation process and provides summaries, written by the individual research teams, of the research reports that were evaluated.

The Evaluation Process

It was decided to carry out the evaluation in two stages. The first stage involved distribution of reports to readers across the country. Altogether 27 referees were asked by the Society to examine the 26 reports as they became available in November, 1988. Each report was evaluated by two or three readers with expertise in the field of the study. A panel comprising Prof. Karol Krótki, (chair), Prof. Eddie Ebanks, Dr Wolfgang Lutz, Prof. Victor Piché and Prof. Marc Termote then met in Ottawa on November 23-25, 1988 to review the preliminary evaluations and prepare summaries of them for each study. At the same time the panel prepared the agenda for a symposium that was held at the same locale on December 1-2, 1988.

The symposium was attended by one or more representatives of most of the 26 research teams, members of the Society evaluation team and observers, including members of the Secretariat of the Review of Demography. Where it was not possible for any member of a research team to attend, a substitute representative or *amicus curiae* was asked to speak on behalf of the team. At the symposium each study was introduced by a discussant who presented a short summary of the highlights of the results and the main conclusions and comments of the reviewers. These evaluations were then discussed by the researchers and the general assembly in a series of lively and informative sessions.

Following the symposium the panel, enlarged by the addition of Prof. Charles Castonguay, Prof. Charles Hobart, Dr Anatole Romaniuc and Prof. James Stafford, reassembled on December 4-5, 1988 to prepare final commentaries on each research study. The short time available for the entire evaluation process, approximately one month overall, resulted in a very intensive exercise. Although an abbreviation of the normal peer review process, the panel review was thorough with most studies being considered by four or more reviewers. The judgements given here will ultimately be complemented by the normal peer reviews as authors submit their manuscripts to journals as part of the traditional process of academic discussion and publication. The purpose here is to give guidance to the reader as to the credence that may be given to the reports summarized in this volume and to their overall reception by their peers on the panels and at the symposium. The reviewers' commentaries form a valuable complement to the studies themselves and record the general tenor of the discussions. The following outline summarizes their overall thrust.

Principal Results of the Evaluation.

Commentators were asked to judge the overall merit of each work and to state whether they considered the studies to be methodologically sound and useful contributions to scientific knowledge. Consideration was also given to the quality of the summary as an accurate reflection of the study results, and the value of each work as a guide to policy formation.

The reviewers concluded that the summaries were, in general, reasonable accounts of the methods and findings of the research studies. As is normal, both summaries and main reports varied in quality, a few being considered superior and the remainder acceptable for publication with varying degrees of revision.

The researchers used well known methodologies which were judged to be correctly employed. In general the data assembled were considered appropriate and, in most cases, adequate for the analyses carried out. As with any group of studies, some were stronger than others in the rigour and imagination with which they framed, tested and interpreted their hypotheses and results. Similarly, there were reservations about the information base of some studies but none were so weak as to lead to unwarranted conclusions. Although specialists in a particular topic might find little original in certain of the studies, the non-specialist might still read them with interest and profit.

In general terms the reviewers were more impressed by studies in which the authors introduced new viewpoints than those that employed standard methods, such as modelling. The latter commonly led to conclusions that had little new to offer or could only be applied with caution to situations in the real world. Some (particularly the economic studies) were criticised for being based on simplifying assumptions; others for examining data from only one place or one source; still others for using a variety of data sets because these sets were not of exactly the same nature. These instances, however, rarely were considered sufficiently serious that they detracted from the general value of the studies, particularly for policy purposes.

Confidence in some results was strengthened by mutually supportive conclusions from studies which addressed themes from different viewpoints. This was considered the case for the three studies concerned with immigration. Similarly, a common view emerged from the studies concerned with ethno-religious changes and their relevance to demographic trends. Some of the studies on regional concerns and the problems of internal movement within Canada illustrated the need in the future for stronger theoretical treatments of interactions important to regional development. Reviewers were cautious about the general relevance of studies that were confined to a few communities, although they endorsed the value of studies which, by providing the basis for policy initiatives, would help sustain a way of life that many in outlying communities find meaningful.


Among the strongest and most innovative studies were many of those that considered the changing circumstances and life styles of various groups: the elderly, young children, young adults, one-adult households and others. Reviewers found many of the arguments and conclusions stimulating, even where drawn from a limited regional data base. In many instances they recognized important implications with respect to housing, social support systems, and education, which will be of interest to policy makers.

Conclusion

The present volume provides a mosaic of studies which contribute to our present understanding of population trends in Canada. It is important to know what has been shown and what has not, what are the proper uses to which each study may be put, and how results may vary with variations in procedures, assumptions and/or data. Some of these points will be brought out in a volume of commentaries which will present in greater detail the results of the Royal Society of Canada's evaluation.

Specialists and others interested in the details of a particular piece of work will want to consult the original study. Virtually all should be published in the scientific literature in due course. Many will result in additional work as data are added or analysed in greater detail. In the meantime, the studies remain the responsibility of the authors, who should be contacted for further information on their work.

The Royal Society of Canada



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* **Demographic Trends and Employment Patterns: Longitudinal Analysis of the Processes and the Determinants**

*Céline Le Bourdais, Hélène Desrosiers,
l'Institut national de la recherche
scientifique, INRS-Urbanisation*

The increased participation of women in the labour market was seen as bringing about an improvement in their socio-economic living conditions. Yet the higher activity rates noted among women do not seem to have been followed by economic progress for women. There has been scarcely any movement in their employment income in relation to men's since the beginning of the 1970's and since then women have become even poorer.

The profound transformations in the family that have marked Canadian society are probably one of the major causes of the feminization of poverty we are now witnessing. In spite of their progress in employment, the economic situation of women still appears to be closely linked to their marital status. Even today a marriage breakdown results in a dramatic drop in a woman's standard of living. And for most women, entering into a union often constitutes the only way of escaping poverty (Duncan, 1984).

Such findings may be a surprise. There is a discrepancy between the slight improvements noted in women's living conditions and their educational and employment advances. Some authors (Goyder, 1981; Duncan, 1984) ascribe this situation to the discontinuous job path of women and their shorter periods of full-time employment.

In this respect, the increased presence of women on the labour market does not seem to have necessarily brought about greater job attachment in their case. On the contrary, their large-scale absorption into newly created jobs characterized mainly by their precariousness would appear to have contributed to an even greater job instability. Another factor that must be mentioned is the job

interruptions for family reasons which still appear to be frequent among a significant number of women (Kempeneers, 1987; Robinson, 1987).

The social and economic status of women would therefore appear to be closely linked to their marital and employment history. In view of the profound changes that have occurred over the past twenty years, any attempt to understand and assess women's living conditions at the turn of the century must include an analysis of the dynamics of the marriage and employment paths followed by different generations of women.

The main purpose of this paper is an examination of the life courses of women. Based on the data of the 1984 Family Survey, the analysis first considers the formation and breakdown of cohabitation arrangements, that is, both marriage and common-law unions. This is followed by a study of women's movements into and out of the labour market. By studying the history of such events it has been possible to characterize the frequency and spacing of events in women's lives and to draw conclusions about the main determinants affecting the likelihood that they will experience such events.

Marriage patterns

The Family Survey data indicate that there has been a very significant increase in the marriage mobility of young women. Generally speaking, the proportion of women under 35 living as one of a couple is similar to that of previous generations. Their greater propensity to live in a common-law relationship at an earlier age offsets the fact that fewer of them marry, and they marry later, than previous generations of women. However, data show a distinct progression in the number of separations among young women. Whether married or cohabiting, younger women are likely to separate after a shorter life together than their elders.

Taking into account age and education, women living in Quebec can be distinguished from women living in other regions of Canada by the greater likelihood of a common-law union and conversely by a decreased likelihood of marriage and a tendency to marry later. Moreover, they are less inclined to marry their common-law partner. Women in the West, and to a lesser extent in Ontario, appear, for their part, more likely to experience a marriage breakdown.

Among the factors influencing women's marriage patterns, level of education and previous work experience play a significant role. Women with less education are more likely to enter into a first union, common-law or legal, than women with more and, conversely, they are less likely to experience a marriage breakdown. The holding of a job tends to increase the likelihood that a woman will have at least one experience of cohabitation whereas the fact that the woman has worked for over five years before marriage tends to increase the probability of separation.

A previous experience of cohabitation does not seem to have any significant influence on women's chances of marriage or separation. However, early marriage is associated with a higher risk of marriage breakdown, as is the fact of having given birth or conceived a child before entering into marriage. On the other hand, the arrival of a child conceived within wedlock increases marriage stability.

The birth of a child constitutes the most important predictor of women's marriage patterns. The birth of a child before cohabitation decreases a woman's likelihood of entering into a common-law relationship at whatever age the birth may have occurred. Conversely, the fact of having a child outside of wedlock has a positive effect on the probability of marriage, at least for women who have had a child during their adolescence.

Analysis of the data also shows that in comparison to her age at marriage, the woman's age at the birth of her first child

appears to have a greater significance with respect to her likelihood of separation. This result suggests that the negative impact of early marriage on marital stability noted in many previous studies (see, among others, Balakrishnan et al., 1987) is related more to the different reproductive history (age at which they gave birth) of women who married young than to their marital history as such.

Job Paths

Data from the Family Survey confirm that job mobility has increased among younger women, as previously noted by Kempeneers (1987). However, an examination of the tables showing women's movements into and out of the labour market reveal that the increased discontinuity of women's work is not linked to an increase in the rate at which women leave the labour market; rather, it is the result of an acceleration in the rate at which women enter the labour market for the first time for a period of at least six months and return following an absence of at least one year. Data from the tables show that, not only are younger women more likely than older women to begin work or return to work following an interruption, they also do so at an earlier age. The table showing exits from the labour market does not reveal any very clear differences between generations, although women in the 35-44 age group have the highest rate of total exits from the labour market.

Analysis of the factors associated with women's movements into and out of the labour market shows that Ontario residents have more continuous job paths than women in other regions of Canada. They are more likely to enter the labour market and to return following an interruption, and they are less likely to stop work.

Among the factors influencing women's job paths, schooling plays a significant role. Women with a high-school education seem more likely to enter the labour market rapidly the first time; however, women's tendency to re-enter the labour market following a break increases with

the level of schooling. Late entry of women into the labour market is linked to a lesser risk of interruptions and a greater likelihood of re-entry following an interruption. The age at which women stop working does not seem to have a significant effect on the likelihood that they will return to work, as long as their reproductive history is taken into account.

Indeed, childbirth is the most important factor in determining women's job paths. Giving birth to a child before entering the labour market significantly reduces a woman's chances of holding a job in the future. Similarly, giving birth following her first exit from the labour market reduces a woman's chances of rapidly re-entering the labour market. Giving birth to her first child while still in the labour market triples a woman's chances of stopping work.

Not only does women's reproductive history affect the likelihood that they will enter or leave the labour market, but taking it into account eliminates some of the differences in labour-market activity between women of different generations. First, the gap between women aged 35 to 44 and women aged 18 to 34 with regard to entry into the labour market seems to be largely due to the fact that members of the younger group are less likely to have already given birth to their first child than are members of the older group. In other words, it appears that the more rapid entry of women under 35 could be attributed to the drop in the number of childbirths or the deferral of childbirth observed among these younger women. Second, the fact that women aged 35 to 44 show a greater tendency to leave the labour market temporarily than do those in the older age group appears to be linked to the fact that they are more likely to have entered the labour market before the birth of their first child, that is, to the fact that they have planned their lives differently in terms of employment and childbirth. When both the age at which a woman entered the labour market and the age at which she gave birth to her first child are taken into account, the gap between women aged 35 to 44 and wo-

men aged 45 to 65 with regard to exits from the labour market becomes insignificant.

In general, women's marriage and job paths thus seem to be more and more discontinuous. It does not appear likely that women's family situation will stabilize in the short term. The instability observed among recent generations seems to be a sign of real change in women's behaviour with regard to cohabitation, and not just an indirect effect of deferring certain events such as the birth of the first child. Women's commitment to the labour market appears limited and - more important - there seems to be little assurance that it will be maintained in the future.

Analysis of the factors influencing women's job paths has shown that reproductive history always plays a determining part. Childbirth remains a significant obstacle to women's entry into the labour market and substantially increases their chances of interrupting work. While, in the past, women tended to stop work permanently following the birth of a child, the younger generations seem to have adopted the practice of temporarily interrupting work at childbirth.

In this context, the future socio-economic position of women seems far from secure. Women's marriage paths, which for the most part remain closely tied to their living conditions, are increasingly marked by discontinuity. Furthermore, women's presence in the labour market will not guarantee economic well-being unless it is accompanied by greater job stability. However, our analysis clearly shows that many women are still leaving their jobs for relatively lengthy periods following childbirth. Will women have to choose in future between having children and enjoying a decent standard of living?

The fact that, even when reproductive history is taken into account, there has been a progressive change in the labour-market behaviour of women observed among members of the younger generation, indicates that the situation may

gradually be evolving. Women under 35 are less likely than were their older sisters to interrupt their labour-market activity following the birth of their first child. Perhaps this is a sign that a new pattern of task sharing is emerging among young couples, as a result, among other things, of the greater employment instability that is now affecting young men as well as young women. However, no definitive conclusions can be reached without further, more qualitative research into the various strategies couples have developed to combine family and jobs.

References

- Balakrishnan, T.R. et al., 1987. "A Hazard Model Analysis of the Covariates of Marriage Dissolution in Canada", *Demography*, 24, 3, 395-406.
- Duncan, G.J., 1984. *Years of Poverty, Years of Plenty*, Ann Arbor, University of Michigan, Institute for Social Research.
- Goyder, J.C., 1981. "Income Differences Between the Sexes: Findings from a National Canadian Survey", *Revue canadienne de sociologie et d'anthropologie*, 18, 3, 321-328.
- Kempeneers, M., 1987. *Femmes et mouvements du travail. Pour un élargissement de l'analyse démographique de l'activité salariée et de l'activité maternelle des femmes*, Montréal, Université de Montréal, thèse de doctorat en démographie.
- Robinson, P.M., 1987. *Interruptions de travail chez les femmes. Résultats de l'Enquête sur la famille de 1984*, Ottawa, Statistique Canada, cat. 99-962.
- Lives of Their Own: The Individualization of The Adult Female Life Cycle**
- Charles Jones, Lorne Tepperman,
Department of Sociology, University of Toronto
- Canadians today enjoy a greater choice in education, career, and family life than ever before. Smaller families, smaller households, fewer relatives, and more mobility have already resulted. Fertility rates have fallen dramatically. New jobs have opened up and women have gained new opportunities in traditionally male work settings. Our research grows out of this drama of change in everyday life by focussing on major choice points, continuities and changes in the adult woman's life cycle.
- Our project is motivated by the hypothesis that, between now and 2025, we shall see the continued unfolding of a trend we are calling the "individualization" of the adult female life cycle. With individualization, each adult woman will live through a sequence of work, marriage and education experiences that is unlike the sequence lived by any other woman. Particularly, movements in and out of major adult statuses -- familial, educational and occupational -- will be much less easily predicted by a few major variables than they are today.
- Three processes make up the individualization of the adult female life cycle: (1) the growth of choice, or variety; (2) the change of choice, or fluidity; and (3) the personalization of choice, or idiosyncrasy. Women already hold a wider variety of positions -- social, economic, familial, and so on -- than in the past. Further, women's lives today are already much more fluid than in the past. Finally, and largely as a consequence of the first two, women's lives are already much more idiosyncratic than in the past. We see these trends continuing, at least until 2025.
- Hypotheses this research will test focus particularly on the individualization of work statuses and include the following:
1. The variety hypothesis. The work lives of Canadian women will become even more varied between now and 2025.
 2. The fluidity hypothesis. The fluidity of women's work lives -- that is, the frequency and ease of their movement from one work role to another -- will continue to increase between now and 2025.
 3. The idiosyncrasy hypothesis. Women's work lives will become even more idiosyncratic -- or influenced by a virtually unique combination of factors -- by 2025.
 4. The composition hypothesis. With this predicted "individualization" of lives, Canada's supply of female paid labour will increase enormously due to effects of:
 - a. Elimination of "participation suppressors" such as prolonged child-bearing;
 - b. The influence of "participation stimulants" such as delayed marriage and higher education.
- This report uses Canadian, American and European data to examine the patterning of these changes and the effect of life cycle patterning (from age 25 to age 65) on total years spent in paid work, numbers of transitions in and out of the labour force, and average hours worked per week.

Findings

What is happening in Canada follows a general pattern of change observable throughout the industrial world. Our data confirm that, in Canada and Western Europe, women are leading more varied work lives than in the past. They are ever more likely to be in the work force; are becoming more evenly distributed between full-time and part-time paid work and housework; and are doing more varied kinds of jobs than ever. Above all, we see a dramatic increase in the amount and variety of part-time work.

Women are likelier than ever to distribute themselves more nearly equally among full-time paid work, part-time paid work, and unpaid housework. Moreover, women are ever less concentrated in particular jobs, industries, and sectors of the economy. As a result, the

job distribution of women is becoming more like men's, meaning that jobs (and industries) are becoming less gender-specific.

Women are also changing their labour force statuses more frequently and easily than in the past. More generally, in any period of time, the likelihood is greater that they will change what they are doing. Such fluidity tends to increase with educational attainment and decrease with marriage. Since higher educational attainment and marriage postponement are increasingly common -- indeed, are often connected -- labour market mobility is likely to continue increasing.

Movement between full-time and part-time work is becoming more common. Women accept parttime work voluntarily, for the most part; but less often than in the past is part-time work chosen for reasons of "family responsibilities". Whatever the reasons, women's work lives are marked by more and shorter interruptions. Women who have left the labour force at all are quicker to get back into it than in the past. Given the growth in variety, there are freer (i.e., more equal) and more frequent movements among labour market statuses than in the past.

Traditional predictors of labour force status are, as predicted, losing their ability to account for variance in the dependent variable. As a result, more variables are needed to predict women's labour force behaviour. "Idiosyncrasy" emerges as the number of predictors needed goes to infinity and the average contribution made by any given predictor approaches zero.

Multiple regression, analysis of variance, event history analysis and multiple classification analysis confirm this expectation. Key predictors of current labour force participation are date of birth (or age at the time of the survey), educational attainment, number of children borne, age of youngest child, marital status, and residence in Ontario. Though traditional predictors -- especially age, marital status, and parity --

are still important today, their total predictive impact is relatively small and declining. Husband's income, or family income minus the wife's, has no demonstrable effect on female labour force participation.

Educational attainment is playing a progressively smaller role, not because education is unimportant but because higher education is becoming more common. As well, whatever their education, women are more and more likely to be in the paid labour force, working full-time or nearly full-time hours.

Projecting the Future

Historical and retrospective data suggest that, in the early part of the twentieth century, rates of movement through (limited) female jobs began to increase before the number of jobs open to women increased substantially. That is, women's exchange mobility began to rise before their structural mobility did. As a result, cumulative participation rates began to rise sooner and faster than current participation rates. In the early part of the century, only 10-20% of women had ever worked for pay and did so more or less continuously; however, by the 1950s closer to 80-90% of all women had ever worked for pay, but they were doing so only briefly and sporadically. Our models suggest that, in future, almost all women will work for pay a large portion of their adult lives.

Given rates of current and cumulative participation, a discrete Markov model estimates that, under continued 1984 conditions, a woman would average 29 years in the labour force; would leave it an average of 1.38 times between ages 25-64, and enter it an average of 1.90 times; and just under one woman in four would never leave paid work at all in forty years.

The same model estimates that an average woman participating in the labour force in 2024 will spend twice as many years in it as an average woman in the labour force in 1944 (that is, 32 years out of 40 possible circa 2024, versus 16 years circa 1944). The Markov model esti-

mates for 1984 are already quite close to estimates for 2024. At least in this respect, then, changes between today and 2024 will be far less dramatic than the changes already witnessed in the last forty years.

Highly educated Canadian women will change in similar ways between now and 2024 but will show less dramatic increases in current and cumulative labour force participation than average. This is because highly educated women have always been more heavily involved in the labour force and at the forefront of individualization.

Increased educational attainment by Canadian women will increase occupational variety and idiosyncrasy. But women's labour force fluidity is already high and increasing rapidly. As a result, increases in average educational attainment by women will not significantly influence the fluidity of the female working population in future, particularly if we define fluidity as movement in and out of the work force.

Though movement in and out of the labour force is not likely to increase, particularly among highly educated women, other kinds of fluidity will increase. In future, female workers will move much more easily from one part-time job to another; from one set of simultaneous part-time jobs to another; or from part-time work to full-time work, and back again. (This is not to rule out the possibility that many male workers will do the same.)

These projected changes will dramatically affect the supply of labour power. In 1985 the average woman aged 25-64 contributed 17.4 hours per week to Canada's supply of paid labour, making a total of 113,184,000 hours per week. We project increases in this supply of labour between now and the year 2025, under reasonable assumptions about population growth, aging, educational upgrading, delay in marriage, and increases in average worktime per week.

A moderate estimate of population growth by 2025 adds 28% to the female labour supply (at ages 25-64) but population aging takes 8% away, leaving a net gain of 20%, other things being equal. Educational upgrading increases labour supply by 9%, and possibly as much as 16%, other things being equal. A continued moderate marriage delay has almost no effect on the labour supply. But if all women followed the current marriage pattern of highly educated women aged 25-34, 19% more hours of paid work would be supplied by the female population aged 25-64. If the suppressor effect of marital status disappeared, labour supply would rise another 42%; and if the suppressor effect of age also disappeared, labour supply would rise 78%, other things being equal.

Thus, under conditions of "perfect individualization", the paid work women aged 25-64 supplied would more than double by 2025. Specifically, by 2025 population increase, educational upgrading, delayed marriage, and "individualization" will have produced the equivalent of a full-time, fully participating 1985 adult female labour force.

Our projections show large regional variations in growth of person-hours worked, with the East region gaining most and Quebec gaining least. Major gains in labour participation could be achieved by the year 2005 under conditions of moderate population growth and aging, universal post secondary education, and all women working at the maximum rates currently observed in their region.

Regions differ markedly in the relative significance of influences on hours worked. In the East, West and Ontario, the largest proportional gains will be due to smaller differences in participation between young women and old, married women and unmarried women. Political and economic changes that tend to erase these distinctions include legislation against age and sex discrimination; more part-time work opportunities; and better daycare facilities. To gain the largest possible increases in female labour

supply and simultaneously maximize personal choice, better legislation and more opportunities will be needed.

This research shows that Canadian women are well on their way to individualized work lives. Other aspects of their lives may be individualizing at the same or a different pace: more research is needed to find out. Likewise, men's lives may also individualize in the next century. We have not tried to answer that question in the present research; but it seems likely that men's individualization will proceed in a different way and at a different rate.

Where women's lives are concerned, legislation is needed to facilitate – not initiate – a process that is already well under way; a process that has already brought women closer to life in 2024 than they are to life in 1944; that yields considerable economic as well as psychological benefits, and is consistent with the prevailing "liberal" view that people deserve the right to make important choices about their own lives.

The Impact of New Adult Lifestyles on Children in Canada

Nicole Marcil-Gratton, Groupe de recherche sur la démographie québécoise, Département de démographie, Université de Montréal

Problems and Methodology

Throughout the ages, but perhaps even more so in our day, the experiences of the long road between early childhood through to adolescence and into adulthood have shaped our attitudes and approaches to later life. The children of today are the adults of tomorrow, and the society they will create will inevitably be rooted in their formative years.

That context is currently being marked by great upheavals in the traditional family framework. Let us recall the major signs of these disruptions: the decline in fertility rates and reduced family size, the recognition of out-of-wedlock conceptions and births, delayed mar-

riage, the proliferation of common-law marriage, marital instability, the high divorce rate, the increase in single-parent families and the advent of blended families resulting from various former attachments. Add to this the remarkable increase in paid employment by mothers outside the home which, at another level, also affects the way today's children are raised.

All these phenomena have been studied in detail by demographers and other social scientists, both in Canada and in most other industrialized countries. However, virtually all such analyses have been conducted in a conventional manner, that is, with a "top down" approach from the point of view of the adults affected by these changes. The impact on the children born to these couples has rarely been examined. To do so, the researcher must not only obtain longitudinal data on the histories of couples, which are not necessarily uncommon, but must also obtain data that are transposable to become the histories of children. However, most surveys of these topics are based on samples of women or couples and, though it is sometimes possible to extract a representative sampling of children from such information, the data manipulations involved are significant if not insurmountable.

Nevertheless, the effort is a worthwhile one. The disintegration of the traditional model of the family has many consequences that affect the daily lives of children more and more often. The question is: to what extent and at what point in their lives do children experience these changes?

The Family History Survey (1984) conducted by Statistics Canada not only provides us with a source of all the necessary longitudinal data on the marital, parental and work lives of Canadians, but also with a sufficiently broad sample, in terms of both number (7,256 women and 6,748 men) and age range of respondents (18-65 years), to enable us to use the data to examine each factor from the viewpoint of the children of the respondents. Thus, this survey is being

used in a novel way, since the factors under examination are being measured in terms of a sample derived from the initial sample. Numerous challenges were posed by this type of approach. We are firmly convinced that our efforts have been amply rewarded by the new insights that were gained into the experience of being born and raised in Canada.

Essentially, we compared the family experiences of generations born in the early sixties (G1961-63) to those of generations born in the early seventies (G1971-73). The family situations prevailing at the time these children were born were also contrasted with those of children born in the early eighties (G1981-83). Lastly, we included the generations born in the mid-seventies (G1975-77) in our analysis in order to observe more recent possible developments in the experience of early childhood (up to age six). The decline in fertility rates, the increased participation of mothers in the paid work force and the diversification of marital experience have marked the lives of these children in various ways. This is what we sought to illustrate.

The Decline in Fertility Rates and Its Impact on the Family Settings of Children

Lower fertility rates are generally analyzed in terms of their impact on the lives of adults, who are responsible for and the prime beneficiaries of smaller family sizes. However, the consequences of this phenomenon for the lives of children in smaller families are significant and highly varied.

The parents of today's children have in common both their age group and their lack of child-rearing experience. Twenty years ago, the existence of larger families inevitably meant that people had children at various ages. In four out of ten instances, children born in the early eighties were born to parents between 25 and 29 years old. In addition, as a result of these parents' preference for very small families, the probability of

being first-born, and therefore born to inexperienced parents, has increased considerably.

Being the eldest of the family has become the lot of most children (44%), while in the early sixties, only one in four babies was born into this admittedly demanding role. Having any older siblings is becoming increasingly rare; having several of them even more so. Currently, only one in five children can enjoy (or bemoan - as the case may be) the presence of two or more older brothers or sisters, whereas half the generations born twenty years ago fit this pattern.

Children born in the early sixties were part of families with a much larger age spread. Most of them were born to women who had already been mothers for at least five years. One in five of these children even benefited from the presence of an older brother or sister at least ten years their senior, who would often play an important role in their development. These much older siblings have all but disappeared in our day: only 5% of newborns have them. Declining fertility rates have had an impact not only on the circumstances surrounding the birth of a children but also on all of their formative years. The children who celebrated their tenth birthday in the early seventies enjoyed the comfortable position of being middle children (42% of them), who would tend to be spoiled less than the last-born, but who would also, because of parental experience or fatigue, would have fewer demands placed on them than the oldest sibling.

One in ten children who turned ten in the early eighties is an only child, usually through the choice of the parents, who do not feel that such a situation is detrimental to their offspring. Only one in five of these children benefit from the seemingly lesser demands placed on middle children. Most other children, that is, seven out of ten, are growing up faced with the expectations placed on first-born (34%) and last-born (39%) children. In either case, the age differ-

ence between these children and their sibling is generally very small (under five years).

These trends become more marked for children born in the early eighties: the position of middle child is becoming rarer, and soon, nine out of ten children are likely to be eldest, youngest or only children. One need not be a psychologist to realize that this new distribution of roles is bound to have an influence on the way in which these future adults will forge the society of tomorrow.

Having a Mother in the Paid Work Force

The remarkable growth of women's participation in the paid labour force over the past fifteen years has meant that more and more Canadian children are raised by mothers who must combine child-rearing duties with the demands of an outside job. This accumulation of responsibilities cannot take place without the transfer of some parenting tasks traditionally assumed by mothers to other parties (child-care centres, relatives, baby-sitters, schools). Our data indicate that this transfer is occurring more and more frequently, and increasingly early in the life of the child. In our opinion, this trend will continue to grow and will henceforth be an integral part of the new family life of Canadian children.

In the early sixties, children were born to mothers whose occupational patterns conformed to the standards of the day: marriage and motherhood were considered natural obstacles to the pursuit of a career. For the first time mothers to continue paid work after giving birth was a marginal occurrence, applicable to only 10% of the mothers of that generation. In the eighties, the situation has reversed, particularly among the most fertile age group: eight in ten children whose mothers were between 25 and 29 at the time of their birth were born to women who did not stop working upon marrying, nor in half of all cases upon having their first child.

Our analysis goes much further. We show how the new propensity for mothers to remain active in the labour force is experienced very differently by children, depending on family size and birth order.

Overall, four in ten children born in the early eighties had mothers who continued working after giving birth. Children born twenty years earlier saw their mothers going back to work in similar numbers only around their twelfth birthday. However, the probability of having a mother who works outside the home remains strongly linked to family size and timing. Today as twenty years ago, children who grow up alone are more likely to have mothers in the work force before reaching school age. Conversely, children in large families are the least likely to face this eventuality. One in five children who turned six in the early eighties (G1975-77) experienced their entire early childhood with a working mother, which is twice the rate for children born in the early sixties. Nevertheless, children born in the early sixties who had no siblings by age six were as likely as children in the same situation today never to have lived in a family with a "stay-at-home" mother.

Today, however, the difference between only children and those with one sibling is less marked, a trend that highlights the apparent homogenization of early childhood experience. In the early eighties, 58% of six-year-olds lived in families of at most two children, and 67% of their mothers had been working at least part-time since their birth. We believe that this pattern is here to stay, since it is the result of a social evolution which would be difficult to reverse, namely, equal access to education by girls, their subsequent access to the labour force and the voluntary reduction in fertility.

Children and the Diversification of Matrimonial Behaviour

In addition to the decline in fertility rates and the increase in paid labour force participation by mothers, the impact of the diversification of matrimonial behaviour is only just starting to be felt in

children's family environments. The context of birth is already much different than it was twenty years ago. The increase in marital instability means that, with increasing frequency, children cannot count on spending their entire formative years without some disruption of their regular family pattern.

In the early eighties, the vast majority of children were still being born during their mother's first legal marriage (83%). Nevertheless, this proportion is lower than it was twenty years earlier (94%). Canadian vital statistics indicate that the proportion of children born out of legal wedlock is growing rapidly, from less than 5% of all births in the early sixties to 14% in the early eighties and 19% in 1986. In that year, the rate was over 20% in some provinces, and even as high as 27% in Quebec.

However, our data indicate that this remarkable increase does not mean that all these children are being born to single parents. Rather, the figures reflect the deinstitutionalization and diversification of attachments among couples. Almost as many children are born into two-parent families today as in the past, even though those parents are now more likely to be involved in a common-law marriage. To be born out of wedlock no longer means to be born without a family, as common-law marriage is becoming a lifestyle that does not preclude parenthood. However, having been a partner in a common-law marriage does indicate a less traditional attitude toward family life: our data confirmed that regardless of a couple's marital status when their child is born, that child is more likely to experience their separation if the mother has ever lived common-law.

Undoubtedly, the most worrisome aspect of the impact of new matrimonial patterns on children remains the loss of daily co-existence with one of their parents. More and more children today witness the separation of their parents, and such separations are occurring increasingly early in the child's life. Whereas approximately one-quarter of the

children born in the early sixties had experienced their parents' separation by the time they turned twenty, only 13% of them saw this occur before they turned ten. In contrast, 23% of children born in the early seventies saw their parents separate by their tenth birthday, including the 7% who never lived with their fathers. Such early separations are all the more striking when viewed in terms of the frequency with which such events occur during early childhood: only 8% of the generations born between 1961 and 1963 had experienced single-parent families by the age of six, whereas for the most recent generations we were able to examine, (G1975-77), this percentage had climbed to 18%. If we merely hold constant the gap between generations observed in 1984, it appears possible that 42% of children born between 1971 and 1973 and 45% of those born between 1975 and 1977 will have seen their parents separate by the time they reach age twenty.

The children of separated couples live in increasingly changeable family patterns as a result of their parents' new attachments. Living in a single-parent situation is not necessarily a long-term prospect. Despite a growing preference for shared custody, our data indicates that in the early eighties, the vast majority of children remained with their mothers following parental separation. However, more and more children must adjust to the presence of their custodial parent's new partner: 50% of children born between 1971 and 1973 and whose parents were separated celebrated their tenth birthday in a blended family that included their mother's new partner.

In this sense, single parenthood has changed in the past twenty years. Children who turned ten in the early part of this decade and whose parents are separated are increasingly likely to experience more than one family arrangement: more than half of them had already seen their mother enter into a new marital or common-law relationship; one in five had experienced single-parent family life a second time and one in ten had even had time to live in a second blended family.

Conclusion

Some may feel that our results raise more questions than they answer about the evolution of the family framework in which children are growing up and the impact that this will have on the society they will build. If this is so, it is because we have been successful in demonstrating how the new lifestyles of adult Canadians are having major repercussions on the lives of children. These new lifestyles have shattered the traditional model of the family and have led to a growing diversification of the life experiences of children from birth to adulthood. The diversification process is well under way, but it is difficult to predict how and when it will end. For the moment, there is no doubt that the new behaviour patterns of adults do not affect all children to the same degree. But in Canada as in other countries, we must realize that an already large number of children are acquiring a very different background and outlook as future citizens than their elders. It can be argued that this has always been the case. Nevertheless, we believe that the lives of children have rarely undergone such rapid and profound change. In fact, it is the speed of this change that prompts us to focus on the marked difference between the childhood experience of today's adults and that of growing generations. To what extent will this dissimilarity hinder the quality of communication and the transmission of values between young and old in our society?

The vast majority of young adults who could soon become parents do plan to have children eventually. Yet, the life choices they make and the social reorganization that will result from those choices must afford children their rightful place. We must seek ways to avoid letting children become the mere by-products of the individual and social transactions of adults, who sometimes forget their offspring in the midst of the constant upheavals of their values and lifestyles. Political leadership is needed to deal with this issue and to ensure that

the best interests of children become a top priority throughout this process of reorganization.

* One-Adult and Two-Earner Households and Families: Trends, Determinants and Consequences

*Thomas K. Burch, Kevin McQuillan,
Population Studies Centre, University
of Western Ontario*

Part 1: Living Alone

At the time of the 1986 census, approximately one in ten of Canadian adults lived alone in a single-person household, that is, they did not share their house or apartment with another person. Of all private households, approximately twenty-one percent contained only one member.

The proportion of population living alone has tripled since 1921, the first census date for which reliable estimates are available, but the increase did not really get underway until after World War II. The rapid rise continued until 1981, when the curve begins to rise more slowly, probably due in part to the economic recession of the early 1980s.

The rise in the proportion living alone has affected most adult age-sex categories, but is most pronounced and involves the largest absolute numbers among older women. The proportion of all women living alone begins to rise sharply at around age 50; by their mid-to late-seventies, close to half of women are living alone. Among males, by contrast, the proportion living alone never attains such high levels; at ages 80 and over, only one-fifth of males live alone.

The key to the male-female difference lies in the proportions married. At ages 80 and over, more than eighty percent of women are unmarried (widowed, divorced, or single), compared to only about thirty-five percent of men.

The proportions of unmarried men and women who live alone are fairly similar across the adult age range. The exception is in the ages from roughly 30 to 50, when many divorced women live with their children, as single parents.

The time trends and current patterns observed in Canada are not atypical. Indeed, in an international comparison with other developed nations, these Canadian figures can be described as low-average.

Causes for the rise in the proportion living alone differ somewhat from one age-sex category to the next, but some generalizations are possible. Past research as well as that presented here would highlight the following factors:

- 1) Rising real income, as well as the growth of institutions (such as social insurance) that guarantee most individuals at least some regular income; a common microeconomic interpretation is that income has reached sufficiently high threshold levels that many people can afford the luxury of separate living, with the privacy and independence it affords;
- 2) A decline in the average number of kin an individual has, which limits the opportunities the average individual has to work out mutually satisfactory co-residential arrangements with kin; due to long-term declines in fertility, for example, older women have fewer sons and daughters with whom they might live in old age; young adults have fewer older siblings, or aunts and uncles, with whom they might live during the transition from the parental home to a home of their own; added to the generally shrinking number of kin are high rates of physical mobility, with a tendency towards geographical dispersal of what kin exist;
- 3) It has often been hypothesized that there has been a general shift in values toward a greater emphasis on the individual and on individual privacy and autonomy; direct evidence on such shifts is rare and difficult to analyze; supportive of the value-change hypo-

thesis is the positive relationship between educational level and living alone;

4) There probably always has been and still is a negative relationship between living alone and poor health or disability; at the extreme, persons with severe mental or physical handicaps may be totally incapable of separate living; the presence of less extreme disabilities may discourage it; over time, modern medicine and a variety of social institutions have made it more feasible for ill or handicapped persons to lead a more or less normal life, including having their own home should they wish it.

The above factors relate to behavioural change. Some important demographic changes also are relevant to overall trends. Since the proportions living alone rise with age, an aging population means a rise in the overall proportion living alone. The growing difference in life expectancy between men and women means that an increasing proportion of older people are widowed females. Higher remarriage rates for men than women following divorce, and the tendency of men to remarry younger women, add to this marital imbalance in later life.

That the proportions living alone have not risen even higher is due to a strong preference for being married or at least in some form of intimate, co-residential relationship.

This preference seems likely to put a cap or upper limit well before the proportion living alone reaches its theoretical limit of 1.0. But preference is not always definitive, and the growing incidence of cohabitation and divorce, as well as continuing high rates of adult male mortality, mean that many people will continue to find themselves without a partner at one or more points in their lives. Most of the other factors affecting living alone also seem to be moving in a direction that would favour further increase.

Living alone is not a major source of personal unhappiness or dissatisfaction with one's life. Persons living alone re-

port roughly average levels of happiness or satisfaction, although lower than those who are married or cohabiting and living with their spouse or partner. Among those living alone, the single or never-married report the least dissatisfaction with living alone, perhaps because they have chosen it, perhaps because they have simply become accustomed to it. The formerly married (widowed or divorced) find living alone a significant source of dissatisfaction or unhappiness.

The greatest dissatisfaction or unhappiness is associated with being unmarried and living with other people. To put it differently, living alone is for many people a second choice after being married; but it is generally preferred over living with persons other than a spouse.

All things considered, the rise of living alone does not seem to present a major social problem or a prime target for government policies to prevent or alleviate. Some individuals choose it; many more find it an acceptable arrangement if not the best. Some policy measures affecting living alone seem worthy of consideration, but the matter does not seem to be one of high priority, compared for instance to issues affecting the care and education of children.

Part 2: Family Change and Family Income

The Canadian family has experienced tremendous change in recent years, change which has made Canadian families far more heterogeneous than was the case a generation ago. Rising rates of divorce, an increase in the proportion of non-marital births and dramatic changes in the labour force participation patterns of women have moved Canadian families a long way from the situation which prevailed at the end of the baby boom era. Lone-parent families, childless couples and two-earner families make up an important part of the distribution of Canadian families, while the once-dominant breadwinner family, in which the father went out to work while the mother remained at home with the children, has been reduced to a

minority position. It is hardly surprising that these developments have had a significant effect on the economic situation of Canada's families. This brief summary will attempt to identify those changes which have had the most important consequences for the financial status of Canadian families.

Studies of income inequality in Canada have remarked on the lack of change in the distribution of family income in the period since the Second World War (Wolfson, 1986). At the same time, they have noted that this stability hides important trends which have had offsetting consequences for the distribution of income. Changes in family structure and in the work activity of family members have been among the most important developments influencing the distribution of income and, in general, the changes which have occurred have served to increase the degree of inequality among families.

Against this background of, in Wolfson's phrase, "stasis amid change," we have attempted to trace the economic fortunes of different family types and to assess the significance of several key characteristics as determinants of family income. Significant growth in real income occurred during the nineteen seventies for all family types, growth which was even greater when measured in per capita terms. The nineteen eighties have been a more difficult period, with family income falling during the first four years of the decade before beginning to recover in 1985. Nevertheless, in real dollar terms, Canadian families were significantly better off in 1985 than they were in 1970.

Yet behind this overall pattern lie significant differences among family types. This research has focused largely on the economic situation of the growing number of lone-parent families headed by females. Our interest in this group was heightened by the findings of recent American research which discovered that the growth in labour force participation rates of women had served to wi-

den the income gap between husband-wife and lone-parent families (Treas, 1987).

Our findings with respect to the situation of female lone-parent families in Canada confirm this view. Data for the period 1971-1986 indicate that female lone-parent families have indeed fallen further behind husband-wife families in both total family income and per capita income. The gap widened significantly during the prosperous seventies but has remained stable in the first half of the eighties. Moreover, the data on the composition of family income indicate that the earnings of lone-parent families have been steadily declining as a percentage of the earnings of husband-wife families. In 1986, the total earnings of non-elderly female lone-parent families amounted to only \$12,563, barely one-third of the amount earned by members of husband-wife families.

While our analysis documents the disadvantage experienced by lone-parent families, it also makes clear that the extent of hardship differs considerably among these families. Lone-parent families where the mother is young and responsible for small children face problems far greater than families at a later stage of the lifecycle. In families where the mother was less than 25 years of age, 1986 income was only \$7,879, and 72.5% of these families fell below the low-income cutoff. The difficulties faced by these young women in combining employment with the sole responsibility for parenting no doubt account for their financial situation. Fortunately, our data suggest that the financial situation of lone-parent families improves with the age of the mother. As the children grow older, involvement in the labour force becomes easier for the mother and eventually the children come to contribute as well. Families where the mother was age 45-54 averaged 1.6 income earners and received income of over \$27,000. Both the income gap between lone-parent families and husband-wife families and the proportion below the poverty line decline with the age of the mother. The problems facing young lone-parent families remain a source of concern, ho-

wever, the more so since the number of such families has been increasing rapidly in recent years.

A special concern of this analysis has been the impact on family income of the growing number of earners in Canadian families. There has been a phenomenal growth of multiple-earner families and a growing income gap between these families and those with only one earner. The increase in the proportion of husband-wife families with more than one earner has posed particular problems for lone-parent families since these families usually have no way of increasing the number of earners they can place in the labour force. Thus we discovered that while the number of earners in husband-wife families increased by 14% between 1971 and 1986, the figure for lone-parent families remained essentially constant. Our analysis found that this growing disparity in the number of earners was almost entirely responsible for the increase in the income gap between husband-wife and lone-parent families.

In concluding, it is important to note that our analysis of the well-being of Canadian families has focused only on money income. As Treas (1987) has pointed out, families lose important services when family members who used to work full-time in the household move out into the labour force, but these losses are ignored when the focus is limited to income in cash. Thus the income gap between one-earner and two-earner husband-wife families may overstate the difference in standard of living experienced by these two types of families. This is unlikely to be the case with lone-parent families, however. If anything, the difference in well-being between these families and husband-wife families would be even greater if we could take into account non-monetary factors. Nevertheless, even when the focus is restricted to monetary income, it is clear that lone-parent families are at a large disadvantage. They make up a growing share of families in the bottom quintile of the income distribution and they are becoming increasingly dependent on non-earnings income to support themselves (Banting, 1987). Several factors

have contributed to this situation. One concerns the characteristics of the lone mothers themselves. More of them today are younger and have never been married, characteristics associated with low family income. Moreover, as women, lone mothers face the same problems all women confront in a labour market where female earnings fall significantly below those of men. The second set of factors centre on family structure. Husband-wife families, with whom lone parents must compete in both the labour market and for goods and services, have been able to improve their financial situation in ways not open to lone-parent families. The growth of full-time work among married women, even women with young children, has strengthened the income-earning potential of two-parent families. Ironically, changes which in the past might have significantly improved the situation of female lone parents, such as pay equity for women, are likely to have less effect today. In sum, the problems faced by lone parents are multifaceted and, as a result, are likely to remain a difficult challenge for Canadian social policymakers in the years ahead.

References

- Banting, Keith G., 1987. "The Welfare State and Inequality in the 1980s", *Canadian Review of Sociology and Anthropology*, 24, 3, 309-338.
- Treas, Judith, 1987. "The Effect of Women's Labor Force Participation on the Distribution of Income in the United States", *Annual Review of Sociology*, 13, 259-288.
- Wolfson, Michael C., 1986. "Stasis amid Change: Income Inequality in Canada, 1965-1983", *Canadian Statistical Review*, (February), vi-xxvii.

The Formation of Households by Young People

Richard Morin, Département d'études urbaines de l'Université du Québec à Montréal; Damaris Rose et Jaël Mongeau, l'INRS-Urbanisation

This report presents the major findings of our research on the formation of households by young people in Canada from 1961 to 1986. The primary objective of this research was to determine key trends in Canada as a whole and in each province concerning the number and types of households formed by young people according to socio-demographic variables such as age and sex, socio-economic factors such as education, income and occupational stability and certain housing characteristics such as type, age and tenure. The latter needs to be taken into consideration because in order to set up a household, one has to occupy a separate dwelling unit. The second objective of this research was, moreover, related to this premise: we aimed to shed some light on the factors influencing choice of accommodation by young households and more specifically to evaluate the significance of such aspects as personal privacy and need for space in relation to other elements such as quality of accommodation and of the environment, neighbourhood attributes and proximity to services and workplaces.

When we speak of "young people", this is a vague and ambiguous social category whose boundaries are seemingly variable and arbitrary (Thévenot 1979) but have considerable social significance -- one need only think of the debate surrounding the access of the under 30 age group to full social assistance benefits in Quebec. Canadian statistics variously define youth as between ages 18 and 24, 18 and 29, 15 and 34.

We have opted for the broadest demographic categorization, considering "young" households to be those whose head or maintainer is aged between 15 and 34. (The concept of "head of household" generally corresponds to the person primarily responsible for payments

related to accommodation. In the census until 1971, however, the male partner was automatically designated head of household in husband-wife households. In the 1981 census, a new concept was introduced to eliminate the sexist bias of "head of household". The Household Facilities by Income and Other Characteristics survey, however, still uses the head of household concept.) Of course this serves a utilitarian purpose as do governmental breakdowns aimed at determining the "clienteles" for various programs: since we are analyzing demographic data, we have no choice but to designate a specific age-group as being "young". Yet in our view, the categorization we have adopted does correspond to a social reality. On the one hand, it makes it possible to take the "baby-boomers" into account, a large proportion of whom are now between the ages of 25 and 34. On the other hand, it allows us to take into consideration the fact that nowadays entry into adulthood -- generally associated with beginning to work, with marriage, with leaving home (Galland 1985) -- is a phase in which these various life events that are often widely spaced and for many people extend past the age of 30, along a life-cycle path that is not necessarily smooth and linear. For the difficulties in joining the work force, the precariousness of increasingly high numbers of jobs (Provost 1987; Ross 1984), the postponement of marriage, and the fragility of relationships resulting in an increase in household disintegration (Burke 1986) have all contributed to increasing complexity and discontinuity in life stages. The traditional and normative definitions of the life cycle concept thus become open to question (Stapleton 1980). There is no longer a single model that can be applied to the large majority of young people (leave home to get married, have children, advance in your career, move up in the housing market).

The increasing number of young households (1961-81) Census data indicate a marked increase in the number of young households in Canada during the 1960s and 1970s. As well, the rate of growth of households headed by persons aged

15 to 24 and 25 to 34 is markedly higher than for households headed by persons aged 35 and over.

This trend is of course linked to the increased population born during the baby boom. Other factors, however, also contribute to this increase in the number of young households because during the sixties and seventies the number of young households increased more throughout Canada than did the population of young people. Calculations of "headship rates" (the ratio of heads of household compared to the total population in a particular age group), confirm that the increase in overall numbers is not the only explanatory factor in the increase in the number of young households. In fact, it is seen that from 1961 to 1971 and from 1971 to 1981 this rate increased among young people, particularly the 15-24 group, where it doubled over twenty years; what is more, this increase in headship rates among young people is higher than that for total population aged 15 and over.

The trend for a greater number of young people to leave the family home without immediately getting married, the postponement of marriage, the growing number remaining single, the rising rates of separation and divorce, are all factors contributing to the increasing proportion of young people who are heads of households. We might add that the favorable economic climate of the 1960s and 1970s, coupled with a more diversified and more accessible housing supply, allowed large numbers of young people to realize their wish to be self-supporting and to live independently.

The proportion of heads of household to total population in the "young" age group varies from province to province. Generally speaking it is higher in the western provinces than in the Atlantic provinces. These variations in large part reflect the differences in economic structure and in available housing; the economy of the western provinces improved more over the 1960s and 1970s than that of the Atlantic provinces, and the housing market there is more diver-

sified. Moreover, the economic situation in the various provinces influences youth migration.

Diversification in types of households formed by young people: 1974-80

The microdata from the Household Facilities by Income and Other Characteristics surveys indicate that during the 1970s there was a diversification of the types of households formed by young people. Trends of particular note are the growing proportion of individuals living alone, especially women, and the increasing proportion of mother-led single parent families. Although in 1980 the husband-wife type household still represents the largest share of households formed by young people, their importance has been decreasing since 1974, and this decrease is more marked among couples with one or more children.

Here again there are some interprovincial differences. For example, in 1974, 1980 and even 1986, the Western provinces as well as Ontario and Quebec account for the highest percentages of young people living alone. These variations must also be related to economic and housing differences. As for the differences in housing, it is worthy of note that young households are more likely to occupy recently built housing than are older households. In addition, the majority of young persons living alone and young single parents live in apartments, unlike young couples with children who are in large part in single family dwellings. The Atlantic provinces have the greatest proportion of single family homes and at the same time the greatest proportion of young traditional households (and the lowest proportion of young non-traditional households).

Evolution in the Process of Formation of Young Households: 1980-86

During the first half of the 1980s, significant changes took place in the process of household formation by young people and in provincial differences in this

area. First of all, we see a decrease in the proportion of young persons who were heads of households. This decrease did not, however, much modify the tendency of young people to live alone. In fact, the type of young household with the greatest proportionate decline between 1980 and 1986 was the couple with child(ren) household. On the other hand, the proportion of female single-parent households increased considerably over this period, particularly in Quebec where the absolute number of such households increased greatly while the absolute number of young husband-wife-child(ren) households decreased considerably. In addition, the proportion and number of female single-parent households rose notably among the under-20 group, which might in part explain the markedly lower income of this type of household. Thus, in 1986, leaving aside the 65 and over age group, the younger people were, the greater was the tendency to form a non-traditional household. The economic crisis of the early 1980s no doubt contributed to slowing down the process of household formation among young people, because of the substantial decrease in income that resulted from that crisis. However, given the persistence of the tendency to live alone and to form single-parent families, we would assume that economic factors are not the only influence on this process. Contrary to what one might imagine, however, level of education does not seem to be a factor; the level of education has not increased among single persons living alone nor has it increased much among female single parents.

Insertion of Young People in the Housing Stock and Their Satisfaction With Their Accommodation

If young people have managed, overall, to retain their independent living status during the 1980s, where and how do they fit into the housing market and can they be described as satisfied with their housing situation? Based on surveys carried out in Montréal, two by INRS-Urbanisation and one by the Ville de

Montréal, mainly among residents of new housing, we can put forward some exploratory elements of a response.

Young people set up their first independent household between the ages of 20 and 22, young women earlier than young men. They start as tenants but aspire to own their own homes. In fact this is the reason most often given for the last or next move, after reasons relating to the physical characteristics of their accommodation. In this they are no different than their elders, but those living alone and sharing accommodation do mention more often the desire to be closer to their work as their principal reason for moving, while single parents mention eviction or harassment.

Young people are also less satisfied with their accommodation and their neighbourhood than are their elders, and more interested in moving. Couples with and without children are the most satisfied, regardless of the type of dwelling occupied. New housing built in older neighbourhoods and in the inner suburbs does not seem well adapted to the needs of the constantly increasing number of young non-traditional households. Singles are more dissatisfied when they live in high-rises while small low-rises of four to six units are particularly unsatisfactory for single parents. This indicates a need for space, privacy and security.

Conclusion

Among the salient points in our research, we may point to the increasing numbers of young households and their diversification: we note in particular the multiplication of one-person households and of female single-parent households, as well as the increasingly young age of the latter. These two groups are, furthermore, the most affected by the impoverishment that has affected all young households in the eighties. The final point to be noted is that the process of formation of young households is marked by provincial variations which reflect economic and housing differences.

Young people's desire to have more personal autonomy, more privacy and more space affects their choice of residence and has certainly been influenced by the new economic prospects that seemed to be opening up in the sixties and early seventies. A great many questions remain to be answered: how have so many young people succeeded in preserving their autonomy, their privacy, their "own space" and what types of compromises have been imposed upon them by the more difficult circumstances that have prevailed in recent years? Longitudinal and qualitative studies would have to be done to find adequate answers to these questions.

Generally speaking, government policies on housing (both social housing and private sector) and on welfare have probably contributed to the formation of a large number of young single-parent and single-person households. It is not, however, impossible that in certain provinces these policies have instead contributed to restricting the formation of households by limiting access to financial and residential autonomy. In the private sector during the relatively favorable economic conditions of the sixties and seventies, residential construction (especially apartment building construction stimulated by government policies and fiscal measures) seems to have encouraged the formation of households made up of one individual, particularly among young women. This supposition needs to be supported by more in-depth research, however.

We are also of the opinion that more attention ought to be paid in future to those young persons who have not been able to fulfill their desire for independent living. Their existence is often hidden by the way official statistics are organized. This is a serious shortcoming, because housing needs forecasts should take into account not only the rate of household formation but also the housing aspirations of these "unrecognized" young people. We have had occasion to find out that even such surveys as that on income and household facilities (HIFE) do not enable one to develop a picture over a number of years of the

distribution of the population under the age of 35 according to household type. When a social category or sub-group remains invisible, it becomes all too easy for policy-makers to make an elision from the notion of "need" to the more functional, but also more restrictive, notion of "demand".

References

Burke, Mary Anne (1986) *"Structures familiales: la diversité s'installe"*, Les tendances sociales canadiennes 1: 6-10.

Galland, Olivier (1985) *"Formes et transformations de l'entrée dans la vie adulte"*, Sociologie du travail XXVII (1): 32-52.

Provost, Monique (1987) Les nouveaux phénomènes sociaux: la catégorie sociale "jeunesse", Commission d'enquête sur les services de santé et les services sociaux, Synthèse critique n° 5, Québec, Les Publications du Québec, 105 p.

Ross, David P. (1984) Les jeunes et l'activité économique, Ottawa, Secrétariat d'État, Direction des communications.

Stapleton, Clare (1980) *"Reformulation of the family life cycle concept: implications for residential mobility"*, Environment and Planning A 12 (8): 1103-1118.

Thévenot, L. (1979) *"Une jeunesse difficile. Les fonctions sociales du flou et de la rigueur dans les classements"*, Actes de la recherche en sciences sociales no 26-27: 3-18.

Early Adulthood Behaviour and Later Life Course Paths

T.R. Balakrishnan, C.F. Grindstaff,
Department of Sociology, University
of Western Ontario

In Canada in the past generation, there has been a major shift in family patterns, particularly relating to the role of women within marriage. Traditionally, the family was oriented toward reproduction, with women in the homemaker role and men as breadwinners. The family was organized to remain united no

matter what crises occurred. In the 1980s, the stability of the family is not assured by tradition, but more related to mutual home and economic obligations, with love and companionship key outcomes. This change means that women are not prepared to enter marriage as easily as in the past unless commitment is strong, and they are ready to leave a relationship if it does not work (Davis, 1984; Ryder, 1979).

This fundamental change in attitude may be causally related to important demographic and life style changes that are taking place in the lives of Canadian women. For example, the mean age at first marriage for women has risen from 22.2 in 1972 to 24.6 in 1985. In the past two generations, the percentage of women aged 20-24 ever marrying is likely to decrease from 95 to 85 percent. As an illustration of this change, the proportion of single women 20-24 years of age has increased from 38 percent in 1961 to 67 percent in 1986. At the same time, the number of divorces has risen by more than 600 percent between the late 1960s and the early 1980s. It is not unrealistic to predict that slightly more than one-third of all marriages contracted in the past 10-15 years will end in divorce. In this context of uncertainty, about 20 percent of "single" women in their 20s are in a cohabiting relationship.

While there are many factors operating in conjunction with these substantial marriage changes for women, one of the key areas is rising individualism (Trova-to, 1988). This level of increasing individualism may also be importantly associated with increasing activity on the part of women in pursuits outside of the family. Married women are more involved in labour force roles both in terms of proportion working outside of the home (22 percent in 1961 to over 50 percent in 1985) and in terms of greater diversity of employment. This labour force change is undoubtedly related to improvements in educational achievement. In 1961, for women age 25-34, 34 percent had completed only an elementary education while less than six percent had some level of university training (two percent completing a de-

gree). In 1981, these figures had changed dramatically with only eight percent of the females having a maximum of elementary education and 22 percent having gone to university (12 percent graduating with a degree).

Changing educational attainment and structural changes in the occupational system with more employment in the tertiary sector have had their impact on the family. The traditional family of the husband wage earner and homemaker wife has been replaced as the major form of family organization by what has been called the symmetrical family, which consists of both husband and wife as income generators in the labour market (Young and Wilmott, 1975; Nakamura and Nakamura, 1985; Huber, 1986). Accompanying these changes in marriage, education and labour force activity is the unprecedented decline in fertility in Canada from the early 1960s to the mid-1980s. The total fertility rate has fallen from 3.6 to 1.7 and the average age at first birth has increased by nearly three years. Clearly, there is a revolution in progress relating to the life cycle patterns among women.

It is axiomatic to say that life course events in a person's life are highly related to each other. Such events as completion of education, entry into and exit from the labour force, age at marriage and timing of births impact on each other in a multitude of ways. Life circumstances in later years are largely determined by the particular sequence of life course events that one has experienced. It is the main thesis of this study that early adulthood behaviour, especially in late teens and early twenties, affects significantly the outcome in later years in such things as marital status, completed family size, economic situation and educational attainment. It is the purpose of this report to examine in some detail the important associations between all of these factors.

The empirical analysis is based on three data sets: (1) The Canadian Fertility Survey of 1984; (2) The Family History Survey of 1984; and (3) the Public Use Sample Tapes of the Canadian Census

of 1981. Because the Canadian Fertility Survey was the more extensive in the measurement of the variables of interest, it is most heavily depended upon in the following findings. The focus is on ever married women 35 to 49 years of age, both as a whole and divided into three five-year age groups, 35-39, 40-44 and 45-49.

Age at Marriage, Age at First Birth and Marital Stability

While it is necessary to be cautious in interpreting causal effects using cross-sectional data and bivariate statistics, there seems to be sufficient evidence to argue that early marriage substantially increases the chances of marital disruption. Life table analysis indicates that the probability of marital dissolution among those who married at 19 years of age or younger was 0.26 compared to 0.20 for those who married at 20 or 21 and 0.14 for those who married at age 25 or older. With social economic controls included, those who married as an adolescent had a three times greater chance of experiencing divorce or separation than those who married at 25 or later. The same type of evidence is developed for age at first birth and marital stability. The younger the age at first birth, the greater the marital disruption. For women 35-49 years of age, only 63 percent were still married if they began their childbearing as an adolescent, compared to 81 percent for women whose first birth occurred between the ages of 22-24. Though many other factors may influence marriage dissolution, clearly the timing of the first birth is important in itself.

Age at First Marriage, Age at First Birth and Lifetime Fertility

A negative relationship is apparent both for age at first marriage and age at first birth in relationship to completed fertility for women 35-49 years of age in Canada, but the strength of these associations has decreased from the older to the younger cohorts (See Figure 1). Generally, for the women over 40, they gave birth to four children on ave-

rage when marrying or having a first child as a teenager. In this age group, the completed fertility decreased to just over two children when they married or had their first baby after the age of 25. This two child "gap" narrows significantly for women 35-39. These women had a completed fertility of fewer than three children when marrying or having a first baby as an adolescent, compared to about two children for women in this age group when these behaviours occurred at age 25 or older. Thus, the finding that, even though this younger cohort of women married or had children early in their reproductive years, it resulted in fewer than three children in their lifetime is an important new demographic trend. This is probably due to better use of contraception for spacing, a more pervasive small family size norm, and the fact that many women resort to sterilization even at an early age, once they have had the desired number of children.

Relationship of Educational Attainment to Nuptiality and Fertility

A high level of educational attainment is often cited as a necessary prerequisite to other successful economic outcomes. In addition, the data show that formal education is likely to precede marriage and childbearing, although there is a two-way causal interaction. Never married women aged 35-49 have the highest levels of education (13.6 years) while those females who married as adolescents have the lowest. There is no relationship between education and marital stability.

Married women with less than grade eight education were wed on average at about age 20. Those with 14 or more years of formal schooling married at over age 23 on average. Given that education delays marriage, and that most fertility occurs within marriage, it is not unexpected that the data show clearly the direct association between educational attainment, fertility and the beginning of childbearing. In the youngest cohort, women aged 35-39, the mean age at first birth was 20.6 for women with grade eight or less education and 25.7 for women with some university trai-

ning, a difference of more than five years! Such a wide differential is undoubtedly a determinant of future life course.

The negative association between educational attainment and overall fertility is quite strong. Nearly 40 percent of the least educated women had four or more children while 11 percent of the females with some university education had this number of offspring. When controlling for education, the range of completed fertility by age at first birth is greatest in the least educated groups. For women with the highest educational attainment, the timing of first birth seems less consequential in terms of final fertility. It is the timing of first birth rather than number of children that is more correlated to the educational attainment of women. Once age at first birth is controlled, educational differences by number of children ever born becomes insignificant. Thus it is likely that an early birth and the attendant childrearing process curtails education, and additional births continue to keep the women out of a formal educational system. When childbearing is delayed, women have the opportunity of going further in the educational process initially.

Relationship of Work to Nuptiality and Fertility

The increasing proportion of married women in the labour force is closely associated with the changing marriage and fertility patterns noted earlier. However, never married females show the highest participation rates in the labour force (79 percent) while continuously married women have the lowest (57 percent). It should be noted that over half of the married women work outside of the home environment. From another perspective, an uninterrupted, continuous work history is least likely for married women. About 25 percent of married women 35-49 have never had a work interruption, compared to 60 percent for the never married females.

We have seen that the demographic variables are highly correlated with education. Such is also the case with labour force participation. In general, higher education provides women with more work opportunities. About 67 percent of the ever married women with some university training (28 percent of the total) are employed compared to 48 percent of women with grade 11 schooling or less (41 percent of the total). Nearly 15 percent of this latter group have never held a job outside of the home, compared to four percent of women with some level of university education. All of these outcomes interact systematically with fertility patterns. Women in the labour force at the time of the surveys had on average half a child less than non-working women, and the differences persist when controlling for education. We cannot tell if the number of children prevents them from working or if being in the labour force reduces their fertility. What is clear is that work status is related to fertility independently of education. The same general pattern emerges when considering lifetime work experience. Women who have never been employed in the work force have 3.4 children compared to 2.3 for women who have had continuous work histories. This same one child differential is evident even among women with university education, 2.8 births to 1.8 births, not working compared to always working.

In this type of analysis, it is important to examine age at first work experience and that relationship to fertility. Ever married women may have started work either before the beginning of childbearing, or after the completion of fertility - two very different patterns. Women who began work relatively late, at age 23-29 or age 30 and over, and had an uninterrupted work history, show higher completed fertility (2.3 and 3.0 respectively) compared to women who began working continuously at younger ages, under age 20 and 20-22 (2.0 and 1.7 respectively). Age at first work, where the work is subsequently continuous, is an important component of the total fertility explanation. Those who began work before the age of 23 had almost all

of their children after going to work and their fertility was relatively low. Those women who started work at age 30 or older not only had nearly all of their children before beginning employment, but they had higher fertility. One may conclude that those women who are more committed to a larger family are likely to wait until their childbearing is completed before contemplating employment in the paid labour force.

Multivariate Analysis

Because of the interdependence of the various factors under analysis in this study, it becomes necessary to use multivariate techniques to determine their relative importance on fertility behaviour. Including age at first marriage as one of the independent variables in the regression, 18 percent of the variance in fertility is explained for all ever married women employing all of the variables including work and education, 14 percent when work and education are excluded. In the overall picture, the beta coefficients are -0.29 for age at first marriage, 0.17 for age at first work, -0.13 for both years of education and uninterrupted work history. These are the four major contributing variables in the regression, reinforcing the theoretical arguments associated with the changing life cycle patterns for women.

When age at first birth is substituted for age at first marriage into the regression model, 22 percent of the variance in fertility is explained (20 percent when work and education are excluded), with significant beta coefficients observed for age at first birth, -0.40, age at first work, 0.13, religious attendance, 0.12, urban residence, 0.11, uninterrupted work, -0.10, and education, -0.05. In this regression, work and education are still significant, but less important when age at first birth is controlled. One can say that it is not the effect of education or work per se on the number of children ever born, but rather the effect that these variables have on the age at first birth that is most important to consider.

Timing of Fertility and Economic Outcome

Data from the Public Use Sample Tape for women aged 35 show that childless ever married women and women who began having children after the age of 30 were better educated and more likely to be in professional occupations compared with the other women of their age who had earlier childbearing experiences. For example, women aged 35 with children under the age of five at home averaged 13.4 years of education and when employed, 31 percent were in professional positions. This compares to 11.8 years of education and 20 percent in the professional occupational category for all ever married women at this age. It would also appear that childbearing at any age is associated with a reduction in labour force activity and earning power.

The census data show that 90 percent of ever married women aged 35 in 1981 had had a child at some point in their lives. In addition, there is evidence of late childbearing in that about 45 percent of the women who had no children in their home at age 30 had at least one child present at age 35. From these data it can be argued that Canada is a pro fertility society in that nearly all women who are in a marital situation have some children; it is only the size of the family that has been reduced. If the appropriate structural changes are forthcoming for women around employment equity and childcare, it is most likely that even larger numbers of older women who have avoided childbearing in their twenties will begin having children (a child) in their thirties.

Generally, the data developed in this study show that the variables of marital status, age at marriage, age at first birth, education, labour force activity and completed fertility are all related in a systematic and predictable way. For women, early marriage and childbearing curtail educational achievement and work outside the home, with a resultant family size larger than average. Advanced educational attainment, particularly university attendance, is asso-

ciated with continuous work activity and later ages at marriage and childbearing concluding in smaller numbers of children ever born. Beginning childbearing late in a woman's reproductive life (age 30 or older) or having no children, correlates with advanced economic outcomes. It is clear that in the 1980s women are continuing to obtain more human capital resources which should allow for more involvement at a competitive level for economic rewards. At the same time, the sex role obligations relating to marriage, family and children are changing dramatically, with the situation presently in flux, but with later marriage, marriage dissolution, smaller numbers of children, later age at first birth, and childrearing options (daycare and husband assistance) more and more the order of the day. It would appear that both men and women are taking on elements of the breadwinner-homemaker roles. In this context, what are the likely patterns for the future?

While predictions of demographic behaviour are risky at best, and can only be stated in terms of past trends and if-then statements, we would favour hypotheses that predict the continuation of the patterns observed for the past 20 years. It would appear that women will continue to marry and to begin having children somewhat later in life, that proportionately fewer women will marry and that dissolution rates will remain high, that levels of educational attainment will continue to rise and that labour force activity among married women will be a regular and consistent pattern of behaviour. In this scenario, completed fertility will undoubtedly stay on a downward course, perhaps even below replacement level on a cohort measure. It is also probable that more egalitarian families will be the outcome (Huber, 1986).

On the other hand, there is evidence that almost all women desire to have children at some point in their lives, and usually more than a single child. There is a definite trend to having children later in life, even beginning childbearing after the age of 30 (Grindstaff, 1984). It may be that nearly all women in Cana-

da in the 1990s will marry and have children, only those behaviours will occur substantially later in their reproductive years compared to the 1950s and 1960s. Canada remains a pro fertility society if that norm is defined in terms of wanting children in the family; it is only the size of the family that has been reduced. If the appropriate societal props are in place (day care, employment equity), it is most likely that even larger numbers of older women who have avoided childbearing in their 20s will begin having children in their 30s. It is also likely that the average number of children for married women will be very close to two, but it is unlikely to be much higher for the near future. The real depressant in terms of fertility may be marriage avoidance.

References

- Davis, K., 1984. "Wives and Work: The Sex Role Revolution and Its Consequences", *Population and Development Review*, vol. 3, pp.397-417.
- Grindstaff, C., 1984. "Catching Up: The Fertility of Women Over 30 Years of Age, Canada in the 1970s and Early 1980s", *Canadian Studies in Population*, vol. 11, pp.95-109.
- Huber, J., 1986. "Trends in Gender Stratification, 1970-1985", *Sociological Forum*, vol. 1, no. 3, pp.476-495.
- Nakamura, A., and M. Nakamura, 1985. *The Second Paycheck: A Socioeconomic Analysis of Earnings*, Orlando, Florida: Academic Press.
- Ryder, N., 1979. "The Future of American Fertility", *Social Problems*, vol. 26, pp.359-370.
- Trovato, F., 1988. "A Macrosociological Analysis of Change in the Marriage Rate: Canadian Women, 1921-1925 to 1981-85", *Journal of Marriage and the Family*, May, vol. 50, pp.507-521.
- Young, M., and P. Willmott, 1975. *The Symmetrical Family*, Harmondsworth, Middlesex: Penguin Books.

Religiously Unaffiliated Canadians: Demographic and Social Correlates of Secularization

*Jean E. Veevers, Department of Sociology, University of Victoria,
Ellen M. Gee, Department of Sociology and Anthropology, Simon Fraser University*

Canada is generally viewed as a preponderantly Christian country. However, many indicators point to the increasing secularization of Canadian society. For example, the Gallup Polls show that, compared with forty years ago, only half as many persons attended church or synagogue within a seven-day period. In 1946, 67% of them did so; by 1988, only 32% did so. Vital statistics show that, in British Columbia, the proportion of brides and grooms declaring themselves to have "no religion" increased from about 1% in 1930 to about 15% in 1980. Persons unaffiliated with organized religion have become a substantial minority, yet they have received very little attention in demographic or sociological research. The present research addresses itself to this significant gap in the literature.

The analysis of religion as a demographic variable begins with the distributions of persons by religious affiliation or lack of it. Patterns of affiliation are explored with data from the 1971 and 1981 Censuses. A second level of analysis involves the degree of attachment of persons to religious groups. Little is known of this dimension, since questions on religiosity are not routinely included in censuses or surveys. However, the 1985 General Social Survey (GSS) includes an item on church attendance which permits us to explore patterns of religious attachment.

The Incidence of Unaffiliated Persons

In the 1921 Census, only 0.25% of Canadians reported that they had "no religion". By 1961, this minuscule proportion had increased, but only to 0.52%. In the 1971 Census, when respondents were given the option of "no religion" as a separate response category,

the proportion of persons over age 15 who had "no religion" increased to 4.4%. This change may have been in part due to the different format of the question, but other indicators of secularization suggest it also represented a real change. By 1981, 7.4% of persons reported "no religion". Although persons of all ages were more likely to be unaffiliated in 1981 than in 1971, the greatest change was among young persons under 25.

In 1985, Statistics Canada conducted a survey (the General Social Survey or GSS) of a random sample of all non-institutionalized Canadians age 15 and over, excepting only those living in the Yukon and the Northwest Territories, giving a data base 11,100 respondents. Persons aged 15-64 were interviewed by telephone; persons over 65 were interviewed in person. The GSS contains two questions that relate to religion. The first question asks respondents: "What, if any, is your religion?" and therefore assesses religious self-identification. Respondents were given a choice of eight religious groups, plus a response category of "no religion" and the option of providing their own answer in an "other" category. If respondents indicated that they had a religious self-identification, they were then asked about their frequency of attendance at religious services: "Other than on special occasions such as weddings, funerals or baptisms, how often do you attend religious services or meetings connected with your religion?" They were given a five-point range of frequencies ranging from "never" to "at least once a week".

From the GSS data base, a three-fold typology of religious affiliation was constructed, combining the information on religious self-identification with the data on frequency of attendance at religious services. These three categories encompass the total sample and are used throughout with the following definitions.

Persons are considered to be unaffiliated if they report no religious self-identification or if they report a religious identification but "never" attend religious

services except for ceremonial occasions such as weddings, funerals and baptisms.

Persons are considered to be moderates if they report a religious self-identification and attend religious services "at least once a year" or "less than once a year".

Persons are considered to be among the faithful if they report a religious self-identification and attend services "at least once a month".

This trichotomy results in three sample groupings of approximately equal size. Of the total GSS sample of 11,100, 29.8% or 3,309 are unaffiliated; 27.7% or 3,077 are moderates; and 42.5% or 4,725 are faithfuls.

It is important to note that our dimensions of religious behaviour -- namely, self-identification and church attendance -- may or may not be associated with other dimensions of religious behaviour. Persons who are affiliated and who attend church regularly may or may not subscribe to an orthodox belief system. Unaffiliated persons may feel themselves to be religious but endorse a belief system or a spiritual view which does not require social sharing. Our use of the term unaffiliated represents a deliberate attempt to characterize persons who appear not to be religiously involved in as neutral a way as possible. These persons are not bonded to organized religion. Whether they are orthodox or heterodox in their beliefs, atheist or agnostic, pro-religion or anti-religion, remains unknown until we have data which specifically address these other dimensions of the religious experience.

By our definitions, one in three Canadian men and one in four Canadian women are unaffiliated. If we modify this stringent definition to include those persons who attend services "less than yearly", four in ten Canadian men and three in ten Canadian women are unchurched. The unaffiliated remain a minority, but they have become a substantial minority.

Our data demonstrate conclusively that three major demographic variables are associated with unaffiliation: age, sex, and region.

Variations by age and sex

Rates of persons reporting "no religion" are highest for persons under 35, after which they generally decline with advancing age. Similar patterns were observed for both men and women. Rates increased from 1971 to 1981, with the largest increase being among young males.

The GSS measures of unaffiliation show persons aged 25-34 are less religious than any other age category. Among these young adults, one in five of the men and one in ten of the women have "no religion". Combining persons with "no religion" and those who never attend services shows that four out of ten young men and three out of ten young women are unaffiliated. By the more encompassing definition of unaffiliation as either having "no religion" or going to church less than once a year, half of young men and 40% of young women are not very religious.

The age group least likely to be unaffiliated are men and women aged 55-64. However, even among this group, one in six either have no religious self-identification or never go to church, and one in five go to church less than yearly.

Being unaffiliated with organized religion is consistently more characteristic of males than of females. Although this generalization is supported by a wide range of research studies, theoretical explanations for the disparity have remained vague. It has been argued that women display higher levels of religiosity than men as a result of their child-raising duties. Persons with children in the home are less likely than others to be unaffiliated. Of men aged 20-59 with no children at home, 44% are unaffiliated, compared with only 28% of those with children. Among women aged 20-59, 33% of those without children are unaffiliated, compared with 25% of those with them. The presence of children

clearly reduces the disparity between men's and women's attachment to organized religion, mainly by increasing male involvement, but it does not eliminate it.

Another explanation for the male-female differential is that men are more likely to be employed outside the home, and are therefore subjected to more secularizing influences. Among employed persons 20-64, rates of unaffiliation are still higher for males (35%) than for females (28%). When only full-time employed persons are considered, the sex differences are minimized but not eliminated.

Regional Variations in Unaffiliation

Rates of unaffiliation are consistently and substantially higher in the western regions, especially in British Columbia, than they are in central or eastern Canada. Persons reporting "no religion" in the 1981 census range from 2% in Quebec to 21% in British Columbia. If the average rate for Canada is assigned a value of 100, the range of indices of comparison is from 28 to 282. The GSS data show rates of unaffiliation ranging from 18% in the Atlantic region to 52% in British Columbia. The indices of comparison by this measure are less extreme, from 61 to 175, but they are still substantial.

When the three factors of age, sex and region are observed simultaneously, the range of variation in unaffiliation is very large. In the 1981 Census, the highest proportion of persons reporting "no religion" is observed among young men aged 25-29 in British Columbia, where 32% of them do so. In contrast, among women over 60 in Quebec, less than 1% have "no religion".

Accounting for Regional Differences: The Catholic-Protestant Factor. One hypothesis offered for regional differences in unaffiliation is that disparities are due to the differential mix of Protestants and Catholics in different areas of the country. Catholics are assumed to be more attached to organized religion, and therefore less likely to apostatize

than are Protestants. Persons who identify themselves as Catholic are found to be more prevalent in the east than in the west. Compared with persons who identify themselves as Protestants, they are more likely to attend church. Regional rates of religious unaffiliation were recalculated to estimate the variation which would be expected under two hypothetical conditions: if Catholics and Protestants were distributed uniformly across the country; and if Catholics and Protestants were equally likely to attend church. Under these conditions, the expected differences between the Atlantic region and British Columbia are comparable to the differences actually observed. Contrary to common supposition, regional variation in rates of religious unaffiliation is not accounted for by regional differences in the Catholic-Protestant mix.

Accounting for Regional Differences: Migration. Migration is generally thought to depress religious involvement. Differential migration patterns are one component believed to contribute to regional differences. Data from the GSS were used to test this hypothesis by comparing the proportions of religiously unaffiliated men and women across Canada, controlling for migration history. In general, migrants are more likely to be unaffiliated than are nonmigrants. However, non-English speaking immigrants are less likely to be unaffiliated than are other persons. Regional rates of unaffiliation were recalculated to estimate the variation which would be expected if, hypothetically, the rates of unaffiliation of migrants to a region were assumed to be identical to the rates of unaffiliation among nonmigrant residents. The hypothetical rates based on this assumption closely approximate the actual rates. This finding suggests that migration *per se* does not account for regional differences and does not systematically mitigate them.

The east-west regional difference in religious affiliation is a prominent feature of the religious landscape. The explanation of this phenomenon continues to pose a theoretically complex and interesting challenge for social scientists.

Other Demographic Variables

Unaffiliation also correlates with other demographic variables, several of which were examined. There is a general negative relationship between religious involvement and educational attainment. For example, in the 1981 Census, 4% of persons with Grade 8 or less report "no religion" compared with 13% of persons with some university. However, the relationship does not always hold. Some data suggest education and religious affiliation may be positively related, at least for men. This apparent anomaly may be the result of the association of higher levels of education with higher social status, which is in turn associated with higher levels of participation in voluntary associations, including religious ones.

In terms of marital status, the divorced are consistently more likely to be religiously unaffiliated than are other marital statuses. Among married persons, 27% are unaffiliated, compared with 43% of the separated or divorced.

In terms of fertility, religious unaffiliation is generally associated with low fertility. In both 1971 and 1981, among ever-married women under 35, those reporting "no religion" were more likely than others to be childless. Among women over 35, differences between the groups persisted but they were very small. This finding suggests that unaffiliation may have more to do with the timing of births than with the total number of children born.

Unaffiliation and Lifestyle

Unaffiliation and Smoking. Persons who are religiously unaffiliated show higher levels of smoking than do moderates or faithfuls. Among faithful persons, 41% of men and 63% of women have never smoked; in contrast, among the unaffiliated only 35% of men and 45% of women never have. The GSS defines a "regular smoker" as someone who smokes cigarettes daily. Among the faithful, 28% of males and 20% of fe-

males are "regular smokers" compared with 41% of males and 29% of females among the unaffiliated.

The expected patterns of regional differences in behaviour do not hold for smoking. Rates of smoking are highest in Quebec and lowest in British Columbia, a relationship which persists controlling for religious affiliation. For example, in Quebec, 30% of the faithful are "regular smokers", compared with only 18% of the faithful in British Columbia. Among the unaffiliated, 44% in Quebec are "regular smokers" compared with only 32% in British Columbia. These variations may reflect differences in the moral connotation of tobacco use of Protestants compared with Catholics, or may reflect other regional differences, such as variation in concern with health and exercise.

Unaffiliation and Drinking. There is a clear and strong association between alcohol use and affiliation with organized religion. Among persons who are faithful, 25% of men and 9% of women have seven or more drinks per week. Among the unaffiliated, nearly twice as many do so: 42% of the men and 16% of the women. Interestingly, when comparisons of regional differences in drinking are made, controlling for affiliation with organized religion, apparent regional differences disappear. Of unaffiliated persons in the Atlantic region, 28% drink seven or more drinks a week, comparable to 29% on the Prairies and in British Columbia. This finding suggests that other behaviours observed to vary across regions may in fact be reflecting regional differences in unaffiliation.

Unaffiliation and Life Satisfaction. Generally, both social scientists and the lay public expect that church attendance and religious commitment will relate positively to various measures of personal well-being. Respondents to the GSS were asked to evaluate their degree of satisfaction with seven different life domains: life in general, family relations, friendships, job, housing, finances and health. They were offered a five-point scale ranging from "very satisfied" to "very dissatisfied". Due to the distribu-

tion of responses, satisfaction was treated as a dichotomous variable - "very satisfied" versus all other responses.

In general, persons who are among the faithful are more likely to be satisfied than are others. Among faithful persons aged 25-64, 49% of both men and women said they were "very satisfied" with life; among the unaffiliated, only 40% of the men and 47% of the women did so. However, controlling for sex and for region, this moderate positive relationship is weakened and, in some instances, reversed. For example, in British Columbia, the proportion of men "very satisfied" is slightly higher among the unaffiliated than among the faithful for six of the seven life domains. Religious persons are sometimes more satisfied than their unaffiliated counterparts, and sometimes not.

These counter-intuitive findings are not conclusive. Our operationalization of satisfaction as a dichotomous variable may be too simplistic to detect the degrees of variation which actually exist on the seven-point scale. Alternatively, it may be that our measurement of religiosity omits crucial aspects of differences among various religious groups. In spite of these limitations, the association between religious involvement and life satisfaction is not as positive as was expected. We conclude that, at least by our procedures, a generalizable relationship between religiosity and life satisfaction cannot be substantiated in the Canadian case.

Implications

The Future of Unaffiliation. A 1988 Gallup Poll reports that 46% of men and 52% of women feel that organized religion is a relevant part of their lives. While these proportions are not large, they represent an increase over the 1984 proportions of 39% and 48%. Such data indicate that one cannot simply assume that all indicators will show consistent and uniform trends towards increased secularization. Counterbalancing trends include the aging of the population, the increase in the proportion of the population composed of elderly women

(the age-sex group traditionally known to be the most religious), and the increase in non-English immigrants. In opposition to these factors, an increase in secularization would be expected with the westward shift in population, with increasing education, and with increasingly egalitarian gender roles. It also seems likely to be concomitant with the general social factors associated with the well-documented declines in fertility and increases in divorce.

The available data indicate that present levels of unaffiliation are likely to be maintained and may very well be expected to increase. However, existing knowledge does not permit projections of exactly when and to what degree such changes will occur.

Attitude Trends. A first implication of increasing secularization will be changes in attitudes towards non-religious persons. As unaffiliation becomes more common, to the point where it applies to more than half of all persons in some age-sex categories, one would expect a normalization of unaffiliation. There should be a reduction in the extent to which the unaffiliated are stereotyped and are stigmatized as deviant.

A second implication of increasing secularization will be changes in a wide range of social attitudes known to be systematically correlated with religiosity. For example, existing research documents that religious people are more conservative, less permissive, and sometimes less tolerant than their less religious counterparts. Changing the proportion of unaffiliated persons in a population will have wide-spread repercussions for changes in public opinion on many issues.

Behavioural Correlates: The Wayward West. In Canada, the distribution of various kinds of atypical behaviours varies from east to west, with many of the less desirable behaviours being unduly concentrated in the west. For example, the rate of AIDS ranges from 8.6 cases per million in Newfoundland to 104.7 cases per million in British Columbia. Similar patterns are found for such va-

riant behaviours as alcoholism, abortion, violent crime, property crime and drug offenses. An empirical question of some importance is the extent to which variations in unaffiliation account for, or at least contribute to, such regional diversity. For example, patterns of drinking have been shown to exhibit the expected east-west variations. However, when one controls for degree of religious affiliation, the differences disappear. It seems likely that the differences in rates of alcoholism do not reflect regional differences *per se* so much as they reflect differences in the proportion of unaffiliated or faithful persons. The same chain of associations is probably relevant for other variant behaviours as well.

Priorities for Future Research. Our research suggests a need to consider religiosity as a demographic variable on the same routine basis as one considers fertility, mortality and migration. Furthermore, it is important to consider not only religious identity, but also the degree of religious attachment, and to develop measures of attachment other than the basic variable of church attendance.

The central queries regarding the association of religious involvement and age cannot be resolved until there are longitudinal studies. With data collected over time, we would be able to differentiate between the effects of aging *per se* and the cohort effects exhibited because persons of different ages have been raised and shaped by different eras. Longitudinal studies would also enable some assessment of cause-effect sequences. Do persons with predilections for particular life-styles seek out particular kinds of religions, or does the religious experience shape those predilections? In examining this, we also need to consider religion as a malleable identity, and to document patterns of conversion and of apostasy.

In general terms, future research needs to establish the concomitant variation of religious identity and/or attachment with other consequential social dimensions. We have shown that being unaffiliated is systematically associated with

sex, age, and region. What other variables are related to being religiously unaffiliated? If future research can identify the major social components relating to being affiliated or unaffiliated, it would be possible to begin to construct theoretical models which would predict both the future incidence of the affiliated-unaffiliated balance, and its consequences for other social institutions.

The Macroeconomic and Demographic Consequences of Alternative Life Cycle Choices

*Frank T. Denton, Byron G. Spencer,
Department of Economics and
Program for Quantitative Studies in
Economics and Population, McMaster
University*

The demographic history of Canada in the past half-century has been dominated by huge swings in fertility levels. The "baby boom" of the 1940s and 1950s was followed by the "baby bust" of the 1960s and 1970s, and then the continuing low levels of fertility of the 1980s. Immigration has of course been a significant factor in determining the rate of population growth, and falling mortality rates have raised life expectancies by many years. Nevertheless, fertility change has been the dominant demographic influence over several decades and the major determinant of the present age structure of the population. Current concerns about "population aging" and its economic consequences are a legacy of the "boom and bust" sequence.

Average fertility rates are for the most part the collective outcome of conscious individual decisions. A proportion of births are unplanned but it is apparent that family size is largely a matter of choice in contemporary society. Moreover, decisions about numbers of children are closely linked to other household decisions. Children require time-consuming care and a share of household expenditure. The decision to have a child therefore implies less time in leisure activities, less time in income-earning activities and hence a reduced adult standard of living (as conventio-

nally measured), or both. Implicitly or explicitly, decisions about family size are also decisions about labour force participation, income, saving, and consumption, and in the aggregate about national production, investment, and capital accumulation. Microeconomic fertility choices thus have far-reaching implications for the macroeconomy, as well as for the population.

Analytical Approach

Some of the effects of fertility change are obvious but some are not. Our aim has been to explore a wide range of effects. The tool that we have used is a theoretical model of an economic-demographic macrosystem, adapted for computer simulation. The model is not a model of Canada. However, we have assigned values to the parameters of the model in such a way that it has some of the major features of the Canadian situation. We have created an artificial "laboratory," so to speak, in which changes in fertility can be induced "experimentally" and the effects on the macrosystem observed.

The macromodel has its foundation in microeconomic life cycle theory. Life cycle theory (as economists use the term) is particularly appropriate, given the obvious importance of family size to patterns of consumption, saving, labour force participation, and other aspects of household behaviour. In essence, life cycle theory assumes that a household takes account of its lifetime stream of income and decides how to allocate that income to expenditures in different periods of its existence, borrowing against future income in some periods, saving for the future or consuming out of past savings in others. In our application of this basic idea, the household makes a joint decision about how it will allocate its potential income stream among children, consumption, and leisure. Household decisions, taken collectively, affect the macroeconomy, including wage rates and the implicit or "shadow" prices of children and leisure. These aggregate price effects feed back on individual households, causing new decisions to be made at the microlevel. There is thus a

continuing series of interactions between households and the macroeconomy.

Family Size as a Life Cycle Decision: The Microeconomic Framework

Imagine a young couple at the beginning of married life. The husband and wife have a current earning capacity but little or no initial wealth. Looking to the future, they can anticipate a stream of earnings and other income over the course of their lives, and some day perhaps an inheritance. Whether explicitly or (much more likely) implicitly, they can think of the present value of future income as their lifetime wealth and about how they should allocate it. In particular, they can think about how many children they would like to have, about how much of their time they would like to devote to "leisure" activities, either during their working lives or in retirement, and about their "standard of living," as measured conventionally by their levels of consumption of goods and services at different ages. If they choose to spend more of their lifetime wealth in the earlier years - because they have more children, for example - they may borrow against future income. Or they may plan for early retirement and save out of current income to make that possible. They may also save as protection against unforeseeable future events or in order to leave something for their children when they die. In short, they allocate their lifetime wealth to different uses and different periods of their lives; they are not restricted to spending only what they receive as income in any given year, although that is of course an option. But whatever they wish to do they are constrained by their level of lifetime wealth. Their problem is thus the classical problem of economics: the allocation of scarce resources (lifetime wealth) among competing uses (children, leisure, consumption, and contingencies or bequests).

Each use has a price associated with it, defined in terms of opportunities foregone - an implicit or "shadow" price. Taking consumption as the standard, the price of leisure is the amount of

consumption foregone by not working, as represented by the (after-tax) wage rate. The price of a child is the amount of consumption allocated to the child (and therefore foregone by the parents), plus the value of the time spent in looking after the child (and therefore not available for income-earning or leisure activities). The value of a unit of bequest or contingency saving is the amount of foregone consumption (or equivalently, of foregone children or leisure). Choices are made in light of the relative prices or trade-off costs associated with different uses of lifetime wealth - and as the prices change, so may the choices made by individual households.

Decisions about family size are thus linked with decisions about leisure and consumption. They involve trade-offs in the allocation of lifetime wealth, and these trade-offs are made against a background of implicit prices or opportunity costs.

General Features of the Macromodel

The micromodel sketched in the previous section is the key behavioural component of the macromodel used in the present study. The macromodel is designed for long-term computer simulations. The time paths of individual cohorts of households are tracked year by year and the time paths of the overall population and economy are tracked also. A set of macrovariables summarizing the changing state of the economic-demographic system is generated and recorded for subsequent analysis as the system moves through artificial time.

The macromodel is driven by its initial conditions and the optimizing decisions of households. Household preferences for children, leisure, consumption, and bequest-inheritance allowances are defined by a lifetime utility function. Labour force participation rates, fertility rates, rates of consumption and saving, wage rates, interest rates, investment, the capital stock, aggregate production and income, the age distribution of the population, and other variables all derive essentially from the household decision process. But the macrosystem

also has feed-back effects on household decisions within the model: as the state of the system changes, so too do expectations about the future, and hence the decisions that households in particular cohorts make about how to allocate their lifetime wealth.

The demographic relations at the macro-level are essentially those of a standard population projection model. The population is closed: there is no immigration or emigration. The course of the population is thus determined entirely by the initial age distribution and the rates of mortality and fertility.

On the economic side, the model is essentially neoclassical (as are most economic models with a long-run orientation). All of the expenditure, income, and wealth variables are defined in real terms. Output is treated as if it were a single good that can be used for either consumption or investment. The overall rate of unemployment is assumed to be continuously at its "natural" level. Different productivity weights are assigned to labour of different ages, and the total then combines with capital as input into an aggregate production function. As a simplification, the model abstracts from technical progress: national output is determined entirely by the levels of the labour and capital inputs. The economy, like the population, is closed: there are no imports or exports. The disposition of the national product is therefore in three directions: to private consumption, to investment, and to government use.

Experiments with the Macromodel

The macromodel has been used in a series of twenty computer simulation experiments, divided into four groups. In the first group, ten steady states were simulated. That is to say, ten different sets of household preferences were assumed, and the model was allowed to run in artificial time for as long as was required for it to achieve final equilibrium states. In each case the change in preferences represented a decision by households to transfer 5 percent of their lifetime wealth among the children, lei-

sure, and consumption categories. These experiments served to bring out the complexity of the economic-demographic system and the difficulties of predicting the long-run macro-effects of changes in household preferences or "life styles." They served also to indicate that changes in household fertility may imply very large changes in the resources available for alternative use in the form of higher levels of consumption or greater amounts of leisure time. A third inference from this first set of experiments was that it does not take a very large shift in the allocation of household lifetime wealth to bring about major changes in the rate of growth and structure of the population and the economy; transfers of only 5 percent at the micro-level were sufficient to effect massive transformations of the macrosystem.

The next experiment involved using the model to simulate the time path of Canadian fertility over the half-century from 1936 to 1986, including both the "baby boom" and the subsequent "baby bust" of that period. A pattern of change in the preferences of successive cohorts of young adults was found experimentally that caused the model to approximate very closely the actual historical time path, and to yield a "1986" population with characteristics very similar to those of the actual 1986 Canadian population. The successful simulation involved shifts in the preferences of young adults in favour of larger families during the period ending with the 1940s, and then in the opposite direction during the 1950s and 1960s. The shift was much more moderate in the 1960s; it was found that most of the drastic revisions that occurred in social attitudes or preferences, and which gave rise to the "baby bust," could be assumed to have taken place among young people in the 1950s. No further shifts at all were required after 1971. The total fertility rate, both simulated and actual, was 1.7 children per woman in 1986, a rate well below the long-run natural replacement level of 2.1.

Three experiments referred to as "counterfactual historical" simulations were then carried out. The first was based on preferences that were unchanged after 1941, and thus assumed away both the baby boom and the baby bust. The result was a much smoother time path of fertility and of the economic-demographic system generally, a larger proportion of children in the population in 1986, a faster rate of growth, and a lower level of national output and income per capita. In short, the 1986 economy and population would have been quite different had there been no boom and bust.

The economy and the population of 1986 would have differed even more from the actual ones had there been a baby boom and no subsequent bust, as in the second of these three experiments. (Preferences were assumed in this experiment to remain constant after 1951.) Aggregate growth would have been very rapid and sustained, per capita output and income would have been even lower in 1986 than they were in the previous experiment, and the proportion of children would have been even higher.

The last of the "counterfactual historical" simulations assumed a baby boom followed by a decline in fertility, but a more modest decline than the one that actually occurred in Canada in the 1960s and 1970s. This experiment produced a 1986 total fertility rate of 2.1, which is just equal to the natural replacement rate. The experiment suggested that, had the total fertility rate in fact been at the natural replacement level, instead of well below it, the economy and the population of today would not be markedly different from the actual ones; there would be some differences, of course, but not major ones. The more pronounced differences would still lie ahead.

The final six simulation experiments pertained to the "future," as defined by the model. These simulations took the 1986 results of the "realistic" historical simulation as a starting point and generated time paths for the half-century ending in 2036, again under alternative assumptions about the preferences of successive cohorts of young adults.

(Some of these cohorts were in the population as children at the start of the simulations and some had yet to be born.) One of the six experiments assumed no change in cohort preferences over the whole period; three assumed shifts of various degrees towards children; and two assumed shifts away from children.

One notable feature of these "future scenario" experiments was that the total fertility rate tended to rise somewhat during the simulations, even when preferences remained unchanged. Ultimately the rate would have to fall again, but that would be beyond the simulation period. Another result was that the proportion of elderly people in the population increased over most or all of the simulation period even when fertility rates were allowed to move up sharply, starting in the early 1990s - and of course, when fertility rates did not move up as sharply, or were allowed to fall, the increases in the elderly proportion were much greater. A larger fraction of elderly people thus seems virtually inevitable, whatever the course of fertility in future decades.

Other characteristics of the "futures" simulations generally were a declining rate of growth of the national product throughout much or all of the period, a lower rate of saving (even negative net saving by the latter part of the period), a falling real rate of interest, an increasing ratio of capital stock to output, and higher levels of average labour productivity. The latter was largely a consequence of a somewhat older and more experienced labour force.

The simulations suggested that there would in fact be major changes in the economy as a result of inevitable changes in the age structure of the population, and perhaps still greater changes if preferences for children shift. But for the most part these are several decades away. Whatever happens to household preferences and fertility levels, the macroeconomy is likely to be little affected for at least two decades. Fertility changes can indeed have fundamental

effects on the macroeconomy, but many of these effects require very long periods before they are fully realized.

Demography and Productivity

Evelyne Lapierre-Adamcyk, Groupe de recherche sur la démographie québécoise et Département de démographie, Université de Montréal, Pierre Lasserre, Pierre Ouellette, Centre de recherche et développement en économique et Département de sciences économiques, Université de Montréal

The possibility of a population decline in the West gives rise to numerous questions including that of the links between demographic stagnation and maintenance of the standard of living. There are few studies on this particular subject; furthermore, little is known about the general question of the relationship between demographic change and the economy. It is, in fact, a very complicated question for which elements of an answer can be found only by grappling with smaller, but well-defined, aspects of the whole. This was the approach taken in this study which, using an economic model, examines how socio-demographic factors help to explain the variations in productivity in Canada from 1955 to 1985. During this period, productivity at first increased slowly and in fits and starts; during the second half of the 1970s, however, there was a sharp increase, following which productivity fluctuated around this higher level. For its part, population growth slowed markedly, particularly as a result of the drastic drop in fertility during the 1960s and its very low level since 1970. This was not a period of demographic stagnation, because, as a result of the initial age distribution, which was very young, the rate of increase was significant and the working-age population continued to rise very rapidly. The results observed are quite relevant, however, when considering the relationship between the economy and demography, as they show the significant impact on productivity of the changes in various socio-demographic characteristics of labour.

The Model: Hypotheses

The model described in this study represents technology and incorporates, using quantifiable parameters, the most promising and most credible hypotheses on how the demographic situation affects changes in productivity. For the study of technical change, the model of technology proposed by Solow (1957) is the most widely accepted; he postulates that the production of a company, sector or, in this case, the economy as a whole, is determined by a production function, whose variables are the inputs of the production process, or factors of production, in this case, labour and capital. There is technical progress and increased productivity when the efficiency of one of the two factors increases or when the production function itself changes. Associated with these two ways of describing technical change are two types of hypotheses on the role of demographic change in increasing productivity.

The first category of hypotheses, having to do with increasing the efficiency of one of the two factors of production, concerns the qualitative changes that occur in the work force as a result of demographic transformations. Two hypotheses were considered: a) demographic factors, particularly changes in the fertility rate, affect productivity because they have an effect on the educational level that people choose, which in turn affects their productive efficiency; b) demographic factors affect productivity because they determine the age structure of the work force, and a person's productive efficiency is not the same at all ages.

The second category of hypotheses concerns innovations that improve in one way or another the efficiency of all the factors of production: for example, the discovery of new processes or the introduction of new technologies. Two hypotheses are interesting from the standpoint of the contribution of demographic events: a) a high proportion of young people in a society encourages innovation and creativity; b) a society with many children devotes a high propor-

tion of its activities to these children, which may have a temporary negative effect on productivity.

The Model: Cost Function

The model of technology in which inputs are combined to produce an output can be based either on a production function or on a cost function. We will use the latter here: a cost function gives the amount that must be spent on the factors of production in order to produce a given quantity, taking into account the price of the factors of production.

The aggregate cost function depends therefore on the total quantity produced (Y), the price of capital (K), r , and the price of labour (L), w . According to Solow's model, technical change slowly modifies the efficiency of the factors of production; in order to take this progressive decrease of the cost of a unit of efficiency into consideration, compensating coefficients ϕ and ρ are applied to the price of capital r , and of labour w ; these coefficients change in accordance with the variables that determine technological change, notably, demographic variables. There is also a phenomenon in technological change in which the aggregate cost function is modified over time according to variables reflecting the relative scarcity of factors of production and the innovative capacities of the society; therefore, in order to take this phenomenon into consideration, vector (B) is added to the aggregate cost function.

The aggregate cost function (AC) is therefore:

$$AC(y(\phi)(r),(\rho)(w)B)$$

To make this cost function operational, four concepts of technical change were considered and their corresponding terms were introduced into the equations that will be subject to an econometric estimation. These concepts are:

a) neutral change - costs change without there being changes in the relative price of the factors; there is therefore no change in the proportion in which the factors are used;

b) biased change - a phenomenon where price decreases are a result of a rearrangement of proportions between the factors of production;

c) exogenous change - a form of change that we can attempt to measure, but that cannot be explained in economic terms; when using econometric methods, exogenous change is taken into consideration by simply introducing the date as one of the "explanatory" variables of the model;

d) induced change - a result, to a certain extent, of a voluntary economic choice; it is represented by variables are a function of the choices made. Since these variables have their effect over time, they must be lagged with respect to the year when the change is measured.

The Model: Specification of Variables Corresponding to Various Terms of Change

Neutral and biased change can both be broken down into two components: exogenous and induced change. The variables that define them are as follows:

a) neutral exogenous change is represented by the date;

b) neutral induced change is covered by: the share of foreign trade (exports plus imports) in net national income; migration (immigration plus emigration) as a proportion of total population; net national product; and the current fertility rate.

These variables are considered to be indicators of the openness and vitality of the economy and of the attitudes of the population toward economic production and innovation.

c) biased exogenous change is represented by the date;

d) biased induced change is intended to take into account the variables that affect the relative efficiency of labour: the level of experience (in years) of the labour force; and the educational level of the labour force.

These two variables are weighted according to the age and sex structure of this population: past values of the relative prices of the factors of production.

Three equations are established: cost equation, work input equation and technical change equation, and the method of maximum likelihood is used to obtain the econometric estimation of the model.

The Model: Results

Canadian data from 1955 to 1985 were used to estimate the model. Three points will be presented: 1) the quality of the model's statistical adjustment to the data; 2) whether the conditions imposed by economic theory were respected; 3) the examination of the relationship between the socio-demographic variables and productivity.

The quality of the model's statistical adjustment to the data

Fourteen parameters were estimated: the parameters that represent the state of technological knowledge and the possibilities for substitution that would exist in the absence of change (4); parameters associated with the various types of technical change: biased induced (3); biased exogenous (1); neutral induced (4); neutral exogenous (2). Eleven of these parameters are statistically significant; the number of years of experience of the labour force, migration as a function of total population and the current fertility rate of fertility are not significant. The coefficients of multiple correlation (R^2) are high and are comparable with the results generally obtained in this type of study. The values of the Durbin statistics, somewhat high, draw

attention to the fact that some variables considered are too rudimentary to represent the complexity of the phenomenon studied.

Compliance with conditions imposed by economic theory

According to economic theory, the cost function must respect certain characteristics of monotonicity and shape with respect to the variable that represents relative prices. It must increase monotonically: the higher the price of the inputs, the more it costs to produce a certain quantity of outputs; the results show that this characteristic is respected. The cost function must also be concave: when prices change, the different combination of inputs can lead to adopting less expensive technology. This characteristic is also respected.

Examination of the relationship between socio-demographic variables and productivity

Following a series of tests to determine goodness of fit, it was clear that the model developed in this study, which incorporates the contribution of socio-demographic variables to the analysis of variations in productivity, constitutes a significant improvement over traditional models. The breakdown of technical change into its various components shows that biased induced change is the determining influence on the development of technical change. Moreover, it is through biased induced change that the action of socio-demographic variables is experienced, particularly by the effect of variations in educational level weighted in terms of the age and sex structure. It will be recalled that the other demographic variables considered did not in themselves have a significant effect.

How can the role played by level of education in reducing production costs in Canada from 1955 to 1985 be interpreted? It goes without saying that the educational level rose during this period. It is useful, however, to point out that the generations that were part of the work force in 1955 included a significant percentage (nearly 50% of those over 35) of people who had not finished grade nine. Also, in the same age groups, the percentage of those who had attended university was less than 10%. The young people entering the job market at that time were a little more educated: between 30 and 35% had not completed grade nine and between 10 and 15% had gone to university.

In 1985, the situation was very different. Workers with little education formed a smaller and smaller proportion and a significant number of young people entering the job market had attended university: more than one-quarter of men and more than one-fifth of women. Therefore, the majority of the labour force had either a secondary or college-level education. This is a very important qualitative change.

Generally, of course, the more qualified the workers, the more they cost - yet the relationship observed goes in the opposite direction. It is necessary, therefore, to look for an explanation in the age and sex structure of the labour force.

The indicator of educational level (percentage having attended university among those present each year in the labour force) was weighted by age and sex structure. This structure has changed drastically: it is younger - the 25-44 age groups represented a larger proportion of the population in 1985 than in 1955: 53% in comparison with 48%. This significant change was accompanied by the dramatic increase of women in the work force, from only 23% in 1955 to 43% in 1985. This phenomenon started gradually, but gained momentum from 1970, particularly with the influx of women aged 25-44, who, as a result of fewer maternal responsibilities, entered the job market in larger numbers and a very large proportion of whom returned

to work after giving birth and caring for pre-school children. Like men of the same age, these young women have a relatively high level of education, and because of this they add further weight to this variable in the underlying causes of increased productivity. This is the result of the educational democratization policies of the 1960s that opened up post-secondary education to an ever greater number of young people, particularly to women.

Apart from the direct influence of the level of education, we should perhaps examine the significance of the weighted indicator we have used. Not only does this indicator change according to the evolution of educational level, it also reflects demographic composition: a younger labour force made up of an increasing number of women. One need hardly recall that young workers accept lower salaries and less satisfactory work conditions, and that women, even the educated, do not join the job market under the same conditions as men: they are subject to discontinuous periods of employment, and they choose temporary or part-time employment more often than men. To a considerable extent they have little choice: the increased productivity of the late 1970s and early 1980s was linked to a marked rise in part-time and temporary jobs. The relative importance of part-time jobs increased during this period from 10% to 15% of all jobs. Furthermore, 70% of these positions were held by women (Statistics Canada, cat 71-201).

In short, a more educated but younger work force, with a larger component of women, has brought about substantial gains in productivity.

Reference

Solow, R. "Technical Change and the Production Function". Review of Economics and Statistics, 39(3), (1957), pp 312-20.

✧ Is it Retirement or Unemployment? The Constrained Labour Supply of Older Canadians

Lars Osberg, *Department of
Economics, Dalhousie University*

Introduction

There has been a dramatic decline in recent years in the labour force participation of older men. In 1973, 88.5% of men between the ages of 45 and 64 were in the labour force but by 1986, their labour force participation rate had fallen to 80.7%. Coincidentally, the Canadian economy has seen a dramatic increase in the aggregate unemployment rate, a trend which has affected older, as well as younger, workers. (In 1986, those jobless males over 45 who continued to look actively for work had an average interrupted duration of unemployment of 31.0 weeks, while the unemployment rate among men and women aged 45 to 64 was 6.8%.)

This paper therefore asks the question: "How important has labour market demand been as a determinant of the labour market behaviour of older Canadians?" or, to put it in another way, if we observe that older Canadians have left the paid labour force, does this represent "retirement" or "unemployment"?

The issue of involuntary labour force withdrawal is important for both the equity and the efficiency of the Canadian labour market. From the point of view of economic efficiency, it is important to ascertain the extent of involuntary labour force withdrawal since this will influence our estimates of potential labour supply, which determines the warranted rate of growth of the Canadian economy and the room that exists for stimulative macro economic policy without inflation. Equity issues arise because the financial and psychological costs of unemployment and involuntary labour force withdrawal are likely to be particularly acute for older workers, and because all of us look forward to being "older workers" at some point in the future.

In general, the labour supply literature emphasizes heavily the labour/leisure choices faced by individuals, and the incentives to which those choices respond. The wage is the main incentive to labour supply and a "utility maximizing individual" will supply labour up to the point where the marginal utility of leisure is equal to the wage. From the incentives' perspective, the retirement decision is especially dependent on the entitlement provisions of pension plans. Incentives, however, can only be part of the story since any model of individual utility maximization must specify some set of constraints to which that maximization is subject.

In the literature on retirement behaviour, two sorts of constraints have often been discussed. Breslaw and Stelcner (1987) and Burtless et al (1987) have emphasized the importance of personal health in the retirement decision. But in the "implicit contract" perspective (e.g., Lazear (1979)), mandatory retirement policies, at any point in time, represent a constraint on the labour supply of older workers -- one to which they had earlier agreed. Authors such as Azariadis (1976) and Hutchens (1983) have argued that individuals accept job offers at those firms which offer the combination of wages and future layoff probability that maximizes their personal utility. This perspective therefore argues that workers choose jobs at those firms which offer the best combination of wages over time, layoff probability and date of mandatory retirement.

However, this study emphasizes the role played by demand side variables in the permanent job separations of older workers, and considers the probability that aggregate supply of labour of individuals will be constrained by labour market demand. It is, therefore in the broad tradition of "constrained labour supply models". Examples of this genre are Ashenfelter (1980), Morrisette (1988), Wales and Woodland (1980), Ham (1982), Phipps (1987), and Ketso (1988). The basic perspective underlying these empirical models is the theoretical idea (made respectable by Malinvaud and Keynes) that the labour

market may often be in disequilibrium in the sense that the demand for labour may fall short of the available supply of labour, for extended periods of time. If this is true, then available work is a rationed commodity, and some people may not receive all that they might desire at going prices. The basic innovation of this study is to approach the labour market behaviour of older Canadians from this perspective, using the Labour Market Activity Survey of Statistics Canada.

Simple Statistics on Labour Market Outcomes

Average hours of work per year decline with age, for those over 45, but very little of this decline is ascribable to a general tendency to shorter hours of work for older workers. The major issue in the data is the very significant drop with age in the percentage working over 2,000 hours per year (i.e., full time full year) and the coincident rise in the percentage working zero hours. The cohort 45+ accounted for only about one quarter of the work hours of the Canadian labour force.

One of the reasons for examining the labour market experience of older workers is the suspicion that unemployment might represent a very different phenomenon among older workers than among younger workers, an indication of which is the greater concentration of unemployment within older cohorts. Men who spent more than half of 1986 unemployed accounted for 72.7% of all the unemployment experienced by older male workers in 1986, but 58.5% of all the unemployment experienced by males 16-44. In 1986, 45.3% of older male workers who experienced some unemployment had over 6 months of unemployment in total, while 28.1% of males 16-44 with some unemployment had total durations over 6 months.

This greater concentration cannot be explained by the "search" models of unemployment which have argued that unemployment is the time people spend looking for an acceptable job. Job mobility is relatively rare among older wor-

kers; over 20% of employed men under 45 had more than 1 job in 1986, but less than 9% of those over 45. The job tenure of older workers is also greater; almost 60% of older male workers had in 1986 been in their job for more than 10 years — over a third had been there more than 20 years. It would be very hard to claim that greater job mobility can account for the greater concentration of unemployment among older workers.

The Lilien (1982) and Sampson (1985) models of aggregate unemployment emphasize the role played by inter-industry shifts in the demand for labour as a determinant of aggregate unemployment. Older workers may be more at risk in this process, but although there is a relatively high rate of inter-industry mobility of labour in Canada, such mobility is concentrated among younger workers. Furthermore, two thirds of those who change industry do so with no intervening weeks of joblessness.

The percentage of each cohort who had, although employed in January, withdrawn from the labour force by December rises with age among those over 35. It is noteworthy that the majority of job separations among those 16-44 arise for "supply-side" reasons such as "dissatisfaction with the job" or "personal reasons" — but the majority of the job separations of older workers are due to the unavailability of previous employment; among men aged 45-54, for example, 60.4% of job leavers left their initial job because it was no longer available to them. "Demand side" job loss, either for structural adjustment reasons or because of the expiry of a seasonal or temporary job, is clearly associated with very long spells of job search and a high probability of ending the year still unemployed.

In summary, simple cross-tabulations tell a simple story. Most older workers have many years of seniority on their job and are unlikely to change jobs. Those who leave their jobs after the age of 65 do so, generally, in order to retire but between the ages of 45 and 64 job-leavers are, generally, job-losers. Such people face very long spells of unemployment

and as a consequence, unemployment among older Canadians is highly concentrated. There is little evidence of a gradual "tailing off" of hours of work as people age and a good deal of evidence that the transition is usually fairly abrupt — from full-time employment to unemployment or not in the labour force.

Multi-Variate Analysis

This section of the study discusses the determinants of the probability of retirement, of exit from the labour force and of under employment among older Canadian worker. It estimates a model of the determinants of hours of labour supply, given the probability of labour market constraint, and presents some evidence for a "backward bending supply curve of labour" among older workers.

Labour Market Transitions Among Older Workers

Among workers over 65, those who have a full-time job are clearly more likely to retire, but full-time or part-time status is not a significant determinant of retirement among those aged 55 to 64. Consideration of aggregate labour demand conditions also seems to play a role in the retirement decision for men between 55 and 64, since the belief that there are "no jobs available" in the local labour market is positively correlated with the probability of early retirement. Pension coverage is also clearly important for the male retirement decision. It is noteworthy that pension coverage and job availability are statistically insignificant as determinants of the probability of retirement for women workers over 55.

Indeed, one of the main morals of this section is the statistical insignificance of many variables which one might have expected to be correlated with the retirement decision. One might have expected that hourly wages would be negatively correlated with the probability of retirement, but there is no correlation at normal significance levels.

There is also no detectable trend for the more highly educated to remain at work longer, despite the often heard hypothesis that the smaller physical demand of white collar employment and the greater job satisfaction which is thought to be characteristic of professional employment might imply a longer working life for the more highly educated. Regional effects are unsystematic. The number of employers and the number of work interruptions within jobs are both clearly insignificant.

It is at this point that the constraints proposed by the public use sample of the Labour Market Analysis Survey become particularly frustrating. It is hard to believe that the family situation of older workers does not play an important role in the retirement decision but individuals are not linked together in households in the public use sample. Since age is only reported in intervals, rather than exactly, we cannot examine the importance of the early retirement provisions of the Canada Pension Plan. Although other analysts (e.g., Stelcner, 1987) have found that ill health is an important precipitator of the retirement decision, analysis can only include the receipt of workmen's compensation benefits as a possible proxy for health problems.

Labour Force Withdrawal

The clearest influence on the probability of labour force withdrawal is "the reason for job leaving". Those who left their first job for reasons of illness and or because their old job was no longer available to them were more likely to withdraw from the labour force — and these effects were consistent, large in magnitude and strongly statistically significant for all age groups and for both men and women.

Other variables are statistically significant for some, but not all age/sex cohorts. Among the oldest cohort (65 to 69) those with only an elementary education were more likely to withdraw from the labour force. University trained males between the ages of 55 and 64 could, at just over the 5% level of stati-

istical significance, be said to be less likely to withdraw from the labour force than other educational groups – but otherwise education is not statistically significant as a determinant of the probability of male labour force withdrawal. There is a detectable tendency for labour force withdrawal to be greater among males 55-64 in Atlantic Canada and males 45-64 in Quebec (and women 55-64 in Quebec), but these are the only detectable regional influences.

The marital status of individuals is statistically insignificant as a determinant of withdrawal, but the negative coefficient on the family size variable for males over 55 does indicate that those with a greater number of dependents are less likely to withdraw from the labour force. Union membership status has no detectable influence on labour force withdrawal.

Among men aged 45-54, there is, as expected, a statistically significant negative association between hourly wage rates and the probability of labour force withdrawal. However the statistically significant positive relationship between labour force withdrawal and wages for men and women over the age of 65 is puzzling. If we exclude those who said that they "retired", pension coverage has no statistically significant relationship with the probability of labour force exit for males, while among females there is a statistically significant negative association for the age group 45-54.

The Probability of Underemployment and Overemployment

Underemployment

One can analyze the determinants of the probability of underemployment in terms of both incentives and barriers to labour supply. In aggregate, 13.1% of older male employees and 11.4% of older women reported some underemployment, considering 1986 as a whole. (For men 16 to 44, the rate was 20.9% and for women, 19.2%).

The primary monetary incentive to the supply of labour is the wage rate – in particular, the marginal wage rate (i.e., the hourly wage in the last job an individual held in 1986). In a probit model of the probability of underemployment, one can explain the positive, and statistically significant coefficients on marginal wage as indicative that people want to supply more weeks of work to the paid labour market, the higher the hourly wage rate. Similarly, the LMAS reports the annual earnings of individuals. The statistically significant negative coefficient on annual earnings can be taken as approximately indicative of an "income effect", consistent with hypothesis that (other things equal) those with higher incomes may prefer to consume more leisure.

As regards labour market barriers, respondents were explicitly asked whether not having enough information, skills, or education for available jobs or shortage of jobs "caused trouble when looking for work". "Not enough information about available jobs" is only an issue in the underemployment of older males and younger females, and its magnitude is relatively small. Supply side deficiencies in skill, education and experience are important determinants of the probability of underemployment, but with significant differences among cohorts. For older workers, "not enough education for available jobs" played an important role. However, both in terms of the magnitude and the statistical significance of the coefficient, job shortage stands out as the most important variable determining whether an individual experienced underemployment during 1986.

From the perspective of incentives to the voluntary supply of labour hours, unemployment insurance and welfare payments represent disincentives to labour supply, since they decrease the cost of remaining jobless, but this would imply a negative association between the receipt of U.I. or welfare and the probability of underemployment. However, if unemployment is typically involuntary, then those who receive U.I. or welfare are those who are forced onto

reliance on transfer payments, implying a positive association. In fact, the data show that the receipt of unemployment benefits is highly statistically significant and positively correlated with the probability of underemployment for all age/sex cohorts. Similarly, the receipt of welfare payments or worker's compensation benefits is statistically significant and positively correlated with the probability of underemployment for both male and female workers under the age of 45 (but statistically insignificant among older workers). Again, we have another indication of the importance of labour market constraints.

Overemployment

Overemployment (i.e., working more weeks than one would really like to) represents another form of labour market constraint. Overemployment is in fact pretty rare among the Canadian Labour Force, since something of the order of 1% of paid employees report "overemployment". Very few older workers make a transition from full time to part-time employment. Among those that do, the only statistically significant variable among males is whether they lost their job for demand side reasons. Among women, one can also detect a greater tendency to shift to part-time work among the university educated and because of illness. Certainly one does not find in the data analyzed any evidence of a trend to voluntary reduction in work hours as individuals age.

Unconstrained and Constrained Labour Supply

Inverse Mills ratios were computed from probability models of underemployment and overemployment in order to estimate a labour supply model, when individuals may be constrained in their labour supply (see Nakamura and Nakamura, 1983). This model was then compared to the naive model of no labour market constraint on labour supply behaviour. It is observed that explained variance increases substantially, some parameters change considerably in magnitude, but results are generally in line with theory.

The statistical significance of the sample selection bias correction terms indicates that the rationed labour supply model is preferable to a naive model of unconstrained labour supply. The preferred specification is quadratic (see Stern, 1986), implying that the labour supply curve of older workers is "backward bending" for high wage workers – i.e., for older Canadians an increase in the hourly wages of high wage workers decreases desired hours of labour supply.

Conclusion

Whether one uses simple statistics or complicated ones, whether one looks at models of discrete labour market transitions or continuous labour supply functions, the data tell a single story—the importance of labour market demand. Although this study has identified the personal characteristics of older workers which influence the decision to retire, to withdraw from the labour force or to supply fewer hours of paid work, it also concludes that a major determinant of the reduced labour supply of older Canadians in recent year is the lack of labour demand – as evidenced in the disappearance of jobs and the lack of available replacement positions. In one sense, this is an optimistic finding, since it implies that the aging of the "baby boom" generation need not be accompanied by lower labour force participation rates and a lower warranted rate of growth of the Canadian economy. From the view point of equity, however, it is disquieting to conclude that for older Canadians labour force withdrawal is so often involuntary unemployment rather than voluntary retirement.

References

- O. Ashenfelter (1980). "Unemployment as Disequilibrium in a Model of Aggregate Labour Supply", *Econometrica*, Vol. 48, No.3, April 1980, Pp. 547-564.
- C. Azariadis (1975). "Implicit Contracts and Underemployment Equilibria". *Journal of Political Economy*, December 1975, Vol. 83, No. 6, Pp. 1183-1202.
- J.A. Breslaw and M. Stelcner (1987). "The Effect of Health on the Labour Force Behaviour of Elderly Men in Canada", *Journal of Human Resources*, November 1987, Vol.22, No. 4, Pp. 490-517.
- G. Burtless (1987). (Editor). *Work, Health, and Income Among the Elderly*, The Brookings Institute, Washington, D.C., 1987.
- J.C. Ham (1982). "Estimation of the Labour Supply Model with Centering Due to Unemployment and Underemployment", *Review of Economic Studies*, Vol. XLIX, 1982, Pp. 335-354.
- R.M. Hutchens (1983). "Layoffs and Labour Supply", *International Economic*.
- V. Ketso (1988). *Work and Welfare Costs of Unemployment*. Ph.D. Thesis, Dalhousie University, 1988.
- J.M. Keynes (1936). *The General Theory of Employment, Interest and Money*, MacMillan & Company Edition, London 1964.
- E.P. Lazear (1979). "Why is There Mandatory Retirement?" *Journal of Political Economy*, December 1979.
- D.M. Lilien (1982). "Sectoral Shifts and Cyclical Unemployment", *Journal of Political Economy*, 1982, Vol. 90, No. 4, Pp. 777-793.
- E. Malinvaud (1978). *The Theory of Employment Reconsidered*, Basil Blackwell, Oxford, 1978.
- R. Morrisette and L. Salvas-Bronsard. "Natural Unemployment and Disequilibrium". University of Montreal. Paper presented at the 1988 Meetings of the Canadian Economists Association in Windsor, Ontario.
- A. Nakamura and M. Nakamura (1983). "Part-time and Full-time Work Behaviour of Married Women: A Model with Doubly Truncated Dependent Variable", *The Canadian Journal of Economics*, Vol. XVI, No. 2, May 1983, Pp. 229-257.
- L. Sampson (1985). "A Study of the Impact of Sectoral Shifts on Aggregate Unemployment in Canada", *Canadian Journal of Economics*, Vol. XVII, No. 3, August 1985, Pp. 518-530.
- Nicholas Stern (1986). "On the Specification of Labour Supply Functions". Pp 143-189, *Unemployment, Search and Labour Supply*. Edited by Richard Blundell and Ian Walker. Cambridge University Press, Cambridge, 1986.
- T.J. Wales and A.D. Woodland (1980). "Sample Selectivity and the Estimation of Labour Supply Functions". *International Economic Review*, Vol. 21, No. 2, June 1980, Pp. 437-469.
- The Impact of Migration on Regional Development: A Comparison of Two Lines of Thought**
- Geneviève Carel, William J. Coffey and Mario Polèse, Institut national de la recherche scientifique - Urbanisation, Université du Québec, Montréal*

Introduction

Regional disparities, measured in terms of per capita employment income, remain one of the most persistent features of the Canadian economy (Polèse, 1987). We wish to explore the link between migration and regional disparities. To simplify the matter somewhat, it is possible to identify two major lines of thought in the Canadian literature.

The first line of thought, which is clearly the most prevalent among economists, stresses the role of interregional migration as an adjustment mechanism. We will use the term "neoclassical model" for this approach. There is a second line of thought, more eclectic and hence more difficult to characterize, which questions some of the conclusions of the neoclassical model. We have chosen what is known as the "local development approach" to represent this line of thought. The reason for doing so is that it is one of the few attempts made in Canada to examine the impact of interre-

gional migration in a different context, while still respecting the basic principles of economic argument.

The first objective of the study is to compare these two lines of thought. This primarily involves conceptual thinking, although empirical analysis also has an important role to play.

The Neoclassical Model

For the economist, the question is primarily one of examining the allocation of scarce resources to possible uses in order to ensure maximum production. Labour, as a factor of production, is one of these scarce resources, to be allocated to activity sectors, firms and regions. It is the market, i.e., the pricing system, that tells workers where their return will be highest. National production is maximized when returns (for analogous factors) are the same everywhere, i.e., when it is no longer possible to increase production by shifting a factor from one use to another. The existence of disparities indicates that it is still possible to increase national production by shifting factors of production. It is therefore to be expected (and it is "desirable") that workers will move to regions where wages are higher and unemployment rates lower. Such reallocation of the labour factor will simultaneously improve the lot of workers, increase national production and reduce disparities in wages (and in unemployment rates). Naturally, the movement of workers from region, which has low wages, to region, which has high wages, will necessarily lower the relative level of wages in region by increasing the supply of labour there and will increase the relative level of wages in region by reducing the supply of labour there. Prices, i.e., in this case, wages, are always determined by the interplay of supply and demand.

This line of argument is well established. Its logic is irresistible, and underlies all market economies. The persistence of regional disparities in Canada accordingly will be the result of a stubborn "imbalance", attributable to a malfunction of the market. This malfunction may

take two forms: (1) prices, i.e., the income that can be derived from work or other activities, do not accurately reflect relative scarcity, and (2) the pricing system operates properly, but workers do not respond as expected, for social, cultural or other reasons. In the case of Canada, a number of writers with neoclassical leanings (e.g., Courchene, 1978, 1981) stress the importance of the first factor, more specifically, the impact of government policies on relative prices. Broadly speaking, governments, through transfer payment programs (unemployment insurance benefits, social assistance, equalization payments, etc.) distort the normal play of the market by altering the relative attractiveness of various uses. In more specific terms, the availability of generous unemployment insurance benefits in Cape Breton will inevitably slow the flow of emigration (to southern Ontario, for example). This in turn will have the effect of maintaining disparities in wages and unemployment between the two regions. In short, if the disparities persist, it is because certain factors, including government policies, prevent workers from responding quickly enough to the different wage and unemployment levels. What is required then is greater mobility.

Having examined Canadian studies of the question, one must conclude that it is impossible either wholly to prove or disprove this model by using empirical analysis. It makes no sense to say that the neoclassical model is wrong. What must be understood are the limitations of a too-simplistic line of thought. With this in mind, we shall now examine the local development approach.

The Local Development Approach

The first thing to understand about the local development approach is that it starts from a different premise than that of the neoclassical model. The neoclassical model is concerned primarily with efficiency, that is, the optimum allocation of resources in a given economic context. The local development approach asks questions about development, i.e. the long-term growth of

national or regional economies, defined as sustained growth of per capita income (Coffey and Polèse, 1984, 1985). It is not surprising therefore that this approach is based on the classic works of Denison (1967) and Kuznets (1965) on economic development. By "economic development" we necessarily mean change, structural modifications, technological innovations – in short, a transformation of the economic situation.

The reader will understand that it is not a question of two contradictory lines of thought, but of two complementary points of view. While the neoclassical "model" stresses the importance of a rapid and effective adjustment to the economic situation, the local development approach instead emphasizes the factors responsible for economic development. For the same reason, we speak of "adjustment effects" in the one case and of "development effects" in the other. Let us take a look at what these development effects might be.

Long-term economic growth depends on a number of factors: the progress of knowledge, external economies (especially economies of scale), entrepreneurship, etc. These factors (or sources of growth, to use Denison's expression) are in large part embodied or incorporated in local populations in the form of human capital, entrepreneurial spirit, accumulated knowledge, etc. From this point of view, interregional migration serves to redistribute the sources of growth: each person who moves embodies a potential for development. This "development effect" may manifest itself in various ways in respect of a person who arrives in region.

The development effect may take the form of a net inflow of human capital. Our analyses confirm that university graduates are more mobile than the Canadian population as a whole and that the regions of emigration are generally net exporters of human capital. The development effect may also take the form of the consolidation (or creation) of external economies: urbanization economies, economies of scale, etc. In either

case, the interregional transfer of sources of growth will result, in the longer term, in greater relative productivity of the economy of region and hence in greater local demand for labour. From this point of view, the local population is in part responsible for its own demand for labour (in the neoclassical model it is a question instead of adjustment to the demand). Continued immigration of human capital, entrepreneurs and skilled workers will inevitably lead to the creation of a dynamic regional economy.

A Difficult Reconciliation

The existence of development effects is difficult to deny. There is no reason to believe, however, that development effects and adjustment effects, due to migratory movements, will necessarily work in the same direction as far as the reduction or creation of regional disparities is concerned. It is quite conceivable that development effects may, in the long run, cancel out the "momentary" impact of adjustment effects. In the case of Canada, it is thus possible that the long-term transfer of population (e.g., from New Brunswick (i) to southern Ontario (j)) has had the effect of maintaining the demand for labour in and reducing it in, thereby contributing to the persistence of disparities despite the equalizing effect of current migration.

It is difficult, however, to compare the two effects on the basis of empirical test because they involve different levels of argument. Development effects are concerned with the cumulative (or projected) impact of migration over several decades, while adjustment effects refer to the outcome in a given economic context. If neoclassical models do not take sufficient account of development effects, it is because the latter are very hard to quantify. The recent efforts of Vanderkamp (1988a, b) to isolate what he calls the "Myrdal effect" are, however, interesting attempts to do so, although still limited due to a lack of sufficient data.

The mistake made by certain neoclassically-inspired theoreticians is not that they believe in their model, but that they forget its limitations. It is all too easy to ignore aspects that are difficult to quantify or model. But this is also the major weakness of the local development approach, which has no rigorous, verifiable formulation. Even Denison's method, no matter how useful, is no more than an accounting model, without real predictive value. How does one measure the "potential" effect of an immigrant, or the power of an entrepreneur? How does one measure the "external" effects of a migrant on urbanization economies? All these methodological questions still await answers.

Development effect cannot be measured without taking account of the local context and integrating data on the current economic situation. This brings us straight back to the frame of reference of neoclassically-inspired modelling efforts. In other words, there is no theoretical barrier to integrating development effects (long-term) into neoclassically-inspired models. However, such an overall model, capable of integrating dynamic elements, will not be developed overnight.

Conclusion

There are three main conclusions to be drawn:

1. In the long run, the ultimate impact of interregional migration on relative wage and unemployment levels remains indeterminate. There are still too many unknown factors. It is likely that migration may simultaneously increase and reduce disparities. The two effects are not in contradiction, but it is impossible to determine their relative importance.
2. With regard to migration and regional development, we must accept the existence of a conflict between the objective of efficiency and that of development (long-term). Interregional mobility is an indispensable adjustment mechanism for a national economy. It

would be both dangerous and contrary to the principle of freedom of movement to erect barriers to mobility. However, awareness of development effects justifies the establishment of transfer payment programs that may have the effect of reducing the size of migratory movements.

3. Any overall policy designed to assist the outlying regions must act upon both the supply of labour and the demand for it. While recognizing the importance (in the long term) of development effects attributable to the characteristics of the local population, it is impossible to ignore the requirements of demand in the short term.

References

- Coffey, W. et M. Polèse (1984), *"The Concept of Local Development: A Stages Model of Endogenous Regional Growth"*, Papers of the Regional Science Association, vol. 54.
- Coffey, W. et M. Polèse (1985), *"Local Development: Conceptual Bases and Policy Implications"*, *Regional Studies*, 19, 2, pp. 85-93.
- Vanderkamp, J. (1988b), *"Empirical Modelling of Regional Adjustment"*, communication présentée à la conférence annuelle de l'Association canadienne des sciences régionales tenue à Windsor le 3 juin 1988.
- Courchene, T.J. (1978), *"Avenues of Regional Adjustment: The Transfer System and Regional Disparities"*, in M. Walker (Ed.), *Canadian Confederation at the Crossroads*, The Fraser Institute, Vancouver, pp. 143-186.
- Courchene, T. (1981), *"A Market Perspective on Regional Disparities"*, *Canadian Public Policy / Analyse de Politiques*, 7, 4, pp. 506-518.
- Denison, E.F. (1967), *Why Growth Rates Differ: Postwar Experience in Nine Western Countries*, The Brookings Institute, Washington.

Kuznets, S. (1965), *Toward a Theory of Economic Growth*, Norton, New York.

Polèse, M., (1987), "Patterns of Regional Economic Development in Canada: Long Term Trends and Issues", in Coffey and Polese, Eds. (1987), *Still Living Together: Recent Trends and Future Directions in Canadian Regional Development*, Montréal, Institute for Research on Public Policy.

Vanderkamp, J. (1988a), "Regional Disparities: A Model with some Econometric Results for Canada" in Benjamin Higgins and Donald J. Savoie (eds.), *Regional Economic Development: Essays in Honour of François Perroux*, Allen and Unwin (à paraître).

Demographic Change, Fiscally-Induced Migration, and Regional Economic Growth

William G. Watson, *Department of Economics, McGill University*

The Problem

The study examines the interaction between demographic change, public expenditures and taxation, interregional mobility, and regional differences in income and well-being. Its larger purpose is to contribute to the now thirty-year-old debate about whether economic growth leads to stability or instability within and between regions (see Myrdal 1957 and Hirschman 1958). It does so in quite a modest way by developing a small-scale simulation model of regional and demographic interaction based on a model first introduced to the Canadian literature by Boadway and Flatters (1982). Although the exercise has provided much insight and instruction to those who performed it, policymakers should be warned at the outset that its usefulness for their purposes is, except to the extent that greater insight is always welcome, very limited. Though the model does not pretend to describe reality—it couldn't, it contains only two regions—the discussion begins with a brief description of some stylized facts.

On the whole, time series of aggregate incomes tend to contradict the idea that economic growth can lead to severe regional instability. For instance, while pre-tax, pre-transfer average provincial incomes have not converged dramatically—and in at least some cases (New Brunswick, Manitoba, and Alberta, for instance) do not seem to have converged at all, there has been at least a slight tendency for the gaps between regions to narrow. This is also borne out by overall measures of inequality across provinces and regions, which tend to show reduced inequality over time (see Vanderkamp 1986 and Mansell and Copithorne 1986). Disequilibrium theorists respond to such evidence by arguing that while it is true average incomes may not have changed much, regional fortunes have been very mixed. Over the last 50 years the industrial core of the country grew considerably more quickly than Atlantic Canada. The combined population of Prince Edward Island, Nova Scotia, and New Brunswick fell from 16 per cent of central Canada's population in 1931 to only 10.9 per cent in 1986. In this disequilibrium view, if the eastern part of the periphery continues to hold its own, it is largely thanks to public policies that aim explicitly to offset "natural" economic forces.

There are several reasons why interregional growth may be unstable. To begin with, the most likely migrants from declining regions are highly productive people. They have skills that may be demanded elsewhere; moreover, almost tautologically, they have the imagination and initiative to move. If a region were slowly stripped of its more talented people, this likely would have serious implications for those who remain. Several effects are possible. If people's productivity depends on how many other people they work with, or on the quality of the people they work with, then the productivity of those who stay may decline. Similar effects may be felt in the region people enter: the arrival of new workers may boost the productivity of people already there. If so, the pro-

cess will be self-sustaining and the income gap between regions will grow.

Similarly, if there are fixed costs to running a government, the departure of any one taxpayer increases the burden on those who remain. And even when public costs are not strictly fixed, so long as they depend less on the number of taxpayers than on the number of other citizens the net tax burden will rise as productive people leave. The most obvious such public expenditures are for education and health care—education expenditures being aimed primarily at young people, while health care goes disproportionately to the young and old. Over time, a declining region stripped of its productive, "middle-age" workers may experience an increase in its dependency rate, i.e., the proportion of its population that is either young or old. If regionally-financed benefits to these groups do not change, tax rates will rise, which may lead to the further exodus of productive, middle-age people. Of course, each of these stories may be subject to mitigating modifications. For instance, regional production functions may be more neoclassical; dependents may pay taxes; expenditure levels may be endogenous; fiscal effects may be capitalized in the price of region-specific assets, and so on. Nevertheless it is interesting to see how such effects interact within the confines of a simple numerical model.

The General Form of the Model

Accordingly, the paper develops a very simple simulation model of a two-region economy in which demography and mobility play an explicit role, and in which instability is entirely possible. The model is based on the idea that different types of people—who may or may not be of different ages—make different contributions to output and require different amounts of public spending. To begin with, the model distinguishes four different kinds of people: productive types, who are between 19 and 64 years of age and produce their region's GNP; dependents, i.e., those 18 years of age and younger or 65 years of age and older, who do not produce GNP yet do

consume public expenditures; the unemployed, who are the same age as productive types but, like dependents, produce nothing and consume public expenditures; and non-participants--people who are also of "productive age" but do not participate in the labour force and may or may not consume public services. A region's population is the sum of these four categories of people.

The model also distinguishes four types of public expenditures: those that vary, respectively, with the number of dependents, with the number of unemployed persons, with the size of the population, and not at all. Though any number of "spending functions" is possible, it is assumed throughout that the amount spent on the average person in each category is also the amount spent on the marginal person in the category. For example, each unemployed person receives the same per capita income grant. In the three categories of expenditure that do vary with population, total spending is just equal to per capita expenditure times the number of people in the category. Together with the spending that does not vary at all, these subtotals sum to overall public spending. Per capita expenditures could be endogenized, but in fact are assumed exogenous throughout.

Overall public spending in a region determines the region's revenue requirements. Dividing these revenue requirements by the region's GNP gives the tax rate required to raise these revenues. Because only productive people produce GNP, because all government-sponsored transfer programmes are assumed to be tax-free, and because all productive people are assumed to have the same income, the tax rate thus calculated is both the average and marginal tax rate. In effect, the regions are assumed to raise all their revenues by imposing flat taxes on GNP, all of which is produced by a single category of person.

The region's GNP comes out of a very simple production function that relates output per worker to the number of workers in the region. In various runs of the

model, having more people in a region can either raise per worker income, lower it, or leave it the same.

What determines whether people move between regions is net income per worker, which is just GNP per worker minus taxes paid per worker. Because people do not respond to just any difference in net income between regions the model specifies an equilibrium difference in net incomes. If the income gap is less than or equal to this specified value, people don't move and income differences are simply tolerated. If it is greater than the specified value, people move until either the gap is closed or the model explodes and one region or the other depopulates.

Although the model involves comparative statics the way it operates is best intuited dynamically:

- The regions' demographic structures and spending functions determine their GNPs, public expenditures, and tax rates.
- Their tax rates and per worker GNPs give us their workers' net incomes. If the difference in net incomes between regions is greater than the crucial income gap, then people move, which alters the regions' demographic structures.
- This, in turn, changes GNPs, public expenditures, tax rates, net incomes and therefore the income gap. If these feedback effects reduce the gap, then although more people may move it's likely the process eventually will come to a stop. If the gap gets larger as a result of people moving, then the process likely continues until one region or the other is depopulated or some other as yet unspecified factor comes into play.

Results

To begin with, the model's two regions are assumed to be identical in every respect and similar in parameter values to the Maritime region of Canada. A 10 per cent increase in the dependent population of region M (which is assumed

throughout to be the lagging region) produces a 2.8 per cent (or \$816) income gap between regions. A 20 per cent increase in all non-productive categories of the population increases this difference to 7.4 per cent. Assuming people respond to as little as a \$100 difference in income, several mobility exercises were run through. In each case, results depended critically on assumptions about regional production functions. With strongly neoclassical functions--defined as those in which per worker output increased by 1 per cent for every 1 per cent reduction in the number of M workers, and fell by 1 per cent in region R, the other region, for every 1 per cent increase in its working population--interregional equilibrium is restored very promptly with not much movement of people between regions. With a Myrdal-like assumption that output elasticities are +1.0 (rather than -1.0, in the strong neoclassical case) the model explodes, with tax rates hitting 100 per cent in M. With the intermediate assumption that per worker productivity does not change as people move into or leave a region, the model also explodes.

The intuition here is that the fiscal consequences of mobility are perverse, re-enforcing disequilibrium, while the production function is the only thing working to offset it. With the 10 per cent difference in dependent population, it is not possible to sustain equilibrium with an output elasticity greater than -0.31. On the other hand, if each migrant takes 1 dependent with him, the fiscal effects are less perverse and equilibrium is possible down to an output elasticity of -0.16; with 2 dependents, below -0.10. Finally, if each migrant takes 2.25 dependents, equilibrium can even be sustained with the "intermediate assumption" that the output elasticities are 0.0. Much the same effects are achieved by varying the assumption about how many unemployed people move in disequilibrium, though no attempt is made to model the unemployed's decision-making. (Nor is this done for dependents, for that matter.)

Dissimilar Regions

The paper then examines cases where the regions are greatly different in size which obviously is also true of the Maritime provinces in their relation to the rest of Canada. Again, parameter values are roughly those that obtain in mid-1980s Canada, although there is great difficulty imputing public expenditures to different demographic groups. A brief discussion of real-world values of the income gap that triggers migration leads to great inconclusiveness and a decision for simplicity to use the figure of \$5000.

The principal result from this version of the model is that when the regions are not the same size the brunt of adjustment is borne by the smaller region. Output and fiscal values for the large region hardly budge as a result of what invariably is a relatively small inflow of migrants from M, even if it is very large from M's point of view. In brief, 10,000 workers leaving Nova Scotia for Ontario may be a big deal for Nova Scotia but, in this version of the model, at least, do not have much of an effect on Ontario. When different assumptions about who moves in response to a greater-than-crucial income gap are allowed, the results are qualitatively the same as with the identical-regions model: equilibrium can be sustained with less and less extreme versions of the neoclassical model, and fewer and fewer people have to leave M in order to restore equilibrium.

Adding a Federal Government

In this model the federal government imposes a flat-rate income tax on GNP producers, wherever they may live, and uses the revenues to finance an equalization programme that, like the current Canadian one, provides the lower-tax-base province with revenues equal to the national average (provincial) tax rate, times its per capita deficiency in the revenue base, times its population. No payments are made to the higher-tax-base province (though it turns out that in some simulations the current Canadian system would do this). The federal

tax rate is whatever is necessary to raise the revenue required by the equalization programme. The federal government makes no other expenditures and raises no other revenues. Local governments are assumed to spend any equalization revenue, rather than reduce their tax rates.

In one version of the equalization programme, the relevant base is per worker output; in a second version, it is per capita output. In the first version, equalization is guaranteed not to have positive efficiency effects: when per worker output is equal in the two regions, equalization is not paid, even when remaining differences in per worker net income encourage continued (inefficient) emigration from the low-income region. Equalization thus phases out precisely when it is needed most. This is not true of the second version of equalization, which tends to be less important under the model's initial conditions, but more important at equilibrium. The reason is that as adjustment takes place, the increasingly unfavourable structure of M's population forces its per capita GNP down, even as its per worker GNP is rising. This tends to increase its equalization entitlement. As a general result, the more generous equalization formula does produce efficiency gains by persuading M workers to stay where their contribution to output is higher. On the other hand, its effects are not large.

Demographic Change

The final version of the model introduces the possibility of demographic change (via birth and death) and allows the model to move through successive equilibria as the generations pass. Four age groups are distinguished. People are born; they move into prime-age, have children, and decide whether or not to move; having either migrated or not, they pass into mid-age and eventually, though here there is some attrition due to mortality, old-age. Demographic change is introduced by altering the rate at which prime-age people replace themselves. As earlier, children and older people give rise to particular government expenditures,

while prime- and mid-age people produce GNP, pay taxes and receive non-specific government expenditures. Some are also either unemployed or do not participate in the labour force, with the propensity to each activity within each generation given by its historical value and, in the case of mid-age workers, the number of workers who have migrated.

Two of the many possible demographic shocks to this system are run through. In the first, there is a one-shot increase in the replacement rate in the low-income region, from its steady-state value of 1.0 to 1.1, followed by a return to 1.0. In the second, the replacement rate increases permanently to 1.1. With strongly neoclassical regional production functions, the one-time bump up in the replacement rate has little permanent effect. M's population stabilizes at a higher level (the boom generation does replace itself, though part of it subsequently leaves) and steady-state demographics are restored. On the other hand, in the new steady-state, the increase in region R's population after the shock in M is considerably greater than the increase in M itself. In effect, M has served as a nursery for R, even with the favourable assumption about production technologies. Essentially the same thing happens with weakly neoclassical regional production functions. With fixed product per worker or with Myrdal-type production functions, however, the model explodes.

With the permanent increase in M's replacement rate and neoclassical regional functions M ends up growing in both absolute and relative terms, though its population structure does settle down to a new steady-state. At the same time, R's population also begins to grow as a result of the induced inflow of migrants from M. In fact, in relative terms M's population declines steadily. With non-neoclassical regional production functions, the model explodes.

Summary

Summarizing a summary is pointless but the study's main conclusion is that regional production functions do matter a great deal. Versions of the model can be thought of in which this is not true. If there is region-specific capital, for example, it may be difficult for entrants to a region to achieve income gains, since these will be capitalized in the price of such capital. But in the version of the model studied here, production functions are crucial and anything very non-neoclassical causes the model to explode.

References

- Boadway, Robin, and Frank Flatters (1982) *Equalization in a Federal State: An Economic Analysis* (Ottawa: Economic Council of Canada)
- Hirschman, A. O. (1958) *The Strategy of Economic Development* (New Haven: Yale University Press)
- Mansell, Robert L., and Lawrence Copithorne (1986) "Canadian Regional Economic Disparities: A Survey" pp. 1-52 in Norrie, ed. (1986)
- Myrdal, Gunnar (1957) *Economic Theory and Underdeveloped Regions* (New York: Harper & Row)
- Norrie, Kenneth, ed. (1986) *Disparities and Interregional Adjustment* Research Report 64 of the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press)
- Vanderkamp, John (1986) "The Efficiency of the Interregional Adjustment Process" pp. 53-108 in Norrie, ed. (1986)

Going Away...and Coming Back: Economic Life and Migration in Bird Cove and Anchor Point

J. D. House with Sheila White and Paul Ripley, *Institute of Social and Economic Research, Department of Sociology, Memorial University of Newfoundland*

Introduction

Migration has been a constant feature of Canadian and Newfoundland history since their first settlement by Europeans in the sixteenth century. Immigration, emigration and a great deal of interprovincial migration continue to characterize our society today and profoundly affect the demographic profile of Canada. In terms of net interprovincial migration, certain macro-level trends are clearly discernible and have continued during the latest inter-censal period: the movement of people from eastern Canada to western Canada, from rural communities to urban communities. These general trends are consistent with the expectations of a labour market theory of migration: people move from areas of lower income and fewer job opportunities to areas of higher income and greater job opportunities.

This labour market explanation, although consistent with macro-level net migration trends, is deceptively simple and fails to deal adequately with a great deal of information about migration in Canada that is hidden if attention is paid only to net migration at the level of Canada as a whole. If one focuses instead on gross migration, that is on the movement of people both into and out of provinces, and on smaller regions of the country, then the picture is more complex and a simple labour-market theory no longer adequate.

In examining trend data for Atlantic Canada, for example, we find that the national trend of urban-rural migration does not obtain. The proportion of people living in rural communities (less than 5000 people) has remained constant since 1966, and the majority of the population continues to live in small

communities. In Newfoundland and Labrador, while the rural population has declined in percentage terms from 66.4 to 58.0 per cent of the population, urban growth has been confined almost exclusively to St. John's and the Avalon Peninsula region on the province's east coast. In absolute numbers, there are as many people in Canada living in small communities today as there were 20 years ago. Rural living, or at least living in small communities (which, for present purposes, we will take to mean rural living) promises to be an enduring feature of Canada's demographic profile for the foreseeable future. Why do people continue to live in such communities? And what sort of lifestyle do they enjoy in the late twentieth century? Those are two of the questions addressed in this study.

Shifting our focus from net interprovincial migration to both out-migration and in-migration also raises many interesting questions. We find, for example, that the high level of net outmigration from the Atlantic Provinces is accounted for almost entirely by migration from Newfoundland and Labrador in recent years — the Atlantic provinces are not a homogeneous region and it conceals as much as it reveals to treat them as such. An examination of the gross migration flows into and out of Newfoundland itself are equally revealing. Contrary to accepted wisdom (which is based on net migration figures) we learn that the rate of out-migration from Newfoundland is not particularly

high as compared to other provinces. Indeed, it is lower than that for the Maritime provinces and the prairie provinces. Furthermore, in terms of absolute numbers of out-migrants, more people leave high income-low unemployment Ontario than leave any other province. Migration is not simply a matter of labour market forces simply conceived.

Of course, Ontario and the western provinces have experienced higher rates of gross in-migration than the four eastern provinces. And, in macro-level terms, Newfoundland's high rate of net popu-

lation loss is due less to the high rate at which people leave than it is to the low rate at which other Canadians migrate into Canada's newest province. Rural Newfoundland in particular attracts very few newcomers from other parts of the country. Nevertheless, it continues to provide satisfying lives for many people, "stayers" or non-migrants, who continue to live there despite high official unemployment levels and low incomes compared to the national average. And the attraction of life in rural Newfoundland is such that many people who leave eventually decide to come back home. The majority of in-migrants to Newfoundland are return migrants, and, while most in-migrants from other provinces settle in St. John's and other urban centres, return migrants go back to their life in the "outports" (small coastal villages dependent mainly on the seasonal inshore fisheries). Why do so many Canadians choose to live out their lives in a Newfoundland outport, despite high unemployment and low income? And why do so many outporters who leave for a while decide to come back home and settle down in the outports?

To address such questions, we need to get beneath the surface of macro-level statistics and macro-level models of net migration to actually lives and experiences of Canadians living in small communities. To do this, we have to sacrifice the breadth of national statistics for the depth of the case study method. The study reported on here takes this latter approach, which we believe is a necessary complement to the more usual macro-level modelling of demographic analysis.

Bird Cove and Anchor Point

To add a comparative perspective to our case study approach, we decided to investigate migration within its everyday social and economic context in two nearby communities on the Great Northern Peninsula of the island of Newfoundland, Bird Cove and Anchor Point. The Great Northern Peninsula is entirely rural. All of its 25,954 citizens live in communities of less than 5,000 people

and the nearest urban community, Corner Brook, is far away from the communities on the Peninsula. Hence, it is a good place to study contemporary rural life in a "pure" form.

Anchor Point and Bird Cove are similar in size, with 1986 census populations of 387 and 394 respectively. Like most Newfoundland outports, a single religion predominates, Anchor Point being Anglican and Bird Cove Roman Catholic. Both communities exhibit a fair amount of migration. Between 1976 and 1981, 40 people moved into each of the communities; during the same period 12 people left Anchor Point and considerably more, 48, left Bird Cove.

Anchor Point is an exceptional outport community. Because of a successful mobile gear, otter trawl fishing fleet which developed over the past decade, and a successful local fish plant served by the otter trawl fleet, Anchor Point enjoys a thriving fishing economy. Unemployment is low, particularly for males, and many families enjoy high incomes, the average for the community being at the national average and considerably above the average for Newfoundland. Bird Cove is less fortunate, and more representative of Newfoundland outports. It depends on a highly seasonal and uncertain small boat fishery using fixed gear. There is no fish plant in Bird Cove itself, and the plant at nearby Brig Bay, where many Bird Cove men and women find seasonal employment, closed last summer because of financial difficulties and many workers did not get paid. Bird Cove people have to find work wherever they can get it — as labourers, truck drivers, carpenters, waitresses, cleaners and whatever else is "on the go." Many people also take short-term jobs on government "makework projects" in order to earn their 10 "stamps" to qualify for unemployment insurance benefits. UI is important to households in both Anchor Point and Bird Cove.

Despite their different economic circumstances, life in Anchor Point and Bird Cove is not qualitatively different. People share similar values, have similar as-

pirations, and experience similar satisfactions and dissatisfactions. There are some differences between the communities, but they are not as large as we had expected. What have we learned about economic life in Anchor Point and Bird Cove? And how does our understanding of the local economy and society related to what we have learned about migration at the community level?

Community Economics and Migration

The main purpose of this project was to examine migration and the role that it plays in the life of small Canadian communities, in particular the two communities of Anchor Point and Bird Cove on the Great Northern Peninsula of the island of Newfoundland. Our main conclusion is that migration has to be understood within the context of the local economy and how it works, and in terms of people's day-to-day behaviour, satisfactions, aspirations and disappointments. We have to understand why many people choose to stay in such communities before we can properly appreciate why some choose to leave, many that leave choose to return, and some outsiders do move into the communities to live.

The local economies of Anchor Point and Bird Cove are constituted by three distinguishable but inter-related spheres: the market sphere, the income supplementation sphere and the

household production sphere. In Anchor Point, the market sphere, based on the successful mobile gear otter trawl fleet and the local fish plant it serves, is quite strong, providing good seasonal incomes to those directly involved and several small spin-off businesses in the community. In Bird Cove, the small boat inshore fishery is precarious and the fish plant in nearby Brig Bay financially unstable. Compared to Anchor Point, the market sphere part of the local economy is weak. Both communities are marked by seasonal employment; most people work in the market sphere for only part of the year.

Households in both communities also depend on the Canadian redistributive system to supplement their cash incomes, gearing their activities so as to maximize unemployment insurance benefits for individuals, households and the community as a whole. The communities collectively have devised a set of informal worksharing strategies to maximize the number of people who qualify for UI and the level of benefits they receive. They have been markedly successful in this, as can be seen by very low dependency of these two communities on social assistance.

Not counting the exceptional case of inshore draggers, many households in Anchor Point and most in Bird Cove nevertheless manage to garner low cash incomes. Their material standard of living would be low were it not for the vibrant non-market productivity of the household economy. Housing is the key. People build and maintain their own houses, thereby providing good accommodation for much less than the cost of comparable accommodation acquired through the housing market in urban centres. Property taxes are also much lower. Households also provide much of their own fuel, and supplement their diet with fish, game, berries and garden crops they produce for their own use. Modern appliances and tools -- pick-up trucks, snowmobiles, power tools, freezers -- are essential to the success of household production. The three spheres of the local economy are inter-dependent, with cash from the market sphere and UI converted into productivity in the market sphere. The local economy also has an informal, noncash community aspect. People provide services for one another, such as baby-sitting and helping out in times of illness, that would cost money in an urban setting.

The productivity of the local economy itself, combined with improved services to outport communities provided by the federal and provincial governments, especially the provision of much improved transportation and communications services, means that the residents of small communities such as Anchor Point and Bird Cove can now enjoy a style of living

that has much in common with their urban counter-parts. They participate in the mainstream of Canadian life, with modern consumer durables and home entertainment through radio, television and video-cassette recorders. While they often hanker for the greater variety of choice, latest models and lower prices available in big cities, their style-of-life is not so different as it was a generation ago. And outporters still enjoy forms of recreation and entertainment, such as hunting, snowmobiling and household visiting that are not so easily available to urbanites.

In other words, rural households in places like Anchor Point and Bird Cove have managed to carve out a niche for themselves within the Canadian mosaic which provides them with a style of living which, while not affluent, is nevertheless satisfying for many people. This explains why many residents of the two communities are stayers or non-migrants. It also explains why the rate of out-migration from Newfoundland is lower than from many other Canadian provinces, in spite of high unemployment and low cash incomes and in spite of the predictions of macro-level models of migration that consider only market forces.

Our understanding of the dynamics of the outport economy also helps explain why the rate of in-migration into Newfoundland is low, which is the main cause of the high level of net out-migration. People from mainland Canada and urban Newfoundland are not only unlikely even to conceive of the possibility of living in outport Newfoundland, they would also be ill-equipped to adapt to such a life even if they were. They lack the informal education and myriad skills required for a successful adaptation to such a social and economic environment.

Despite the foregoing, we would not like to leave the impression that all is rosy in outport Newfoundland. It is not. Chronic underemployment, low income and a fairly restricted opportunity structure is the lot of most people. Hence, most people, particularly when they are

young adults before they have "settled down" in life, contemplate leaving, either temporarily

or permanently. And many of them do. Out-migrants are of two types. Middle class migrants are the small minority who complete high school, leave initially for post-secondary education and training, and then pursue professional careers which seldom entail returning to their community of origin. This is partly due to the recruiting practices of large-scale organizations which hire people according to universalistic criteria.

Most out-migrants, however, are young working class people who decide to try their luck in a new place. Some of them venture to mainland locations where work is known to be plentiful, such as southern Ontario and Alberta. When they move, they typically have personal family and friendship contacts in their place of destination who help them settle in to their new locale. Whether they stay or not depends on the experiences they have. Most have little difficulty finding a job, or series of jobs, which pays them better than they enjoyed back home. Nevertheless, they lack the formal education and training to compete for high-paying jobs offering long-term employment security. And, lacking the support of the household economy that they took for granted back home, they find that the cost of living, particularly for accommodation, is high.

It is not surprising, therefore, that many outport Newfoundlanders who go away eventually decide to come back home. Having failed to realize their all too Canadian dream on the mainland, finding that their increased cash income allows for no savings and few new luxuries in life, sometimes looked down on by employers and others as "Newfies" because of their different accents and speech patterns, lonely for their family and friends back home, and lacking the hidden supports of the home community and household economy, thousands of Newfoundlanders become return migrants to their native province. They

come back, settle down and live out their version of the Canadian dream in Anchor Point and Bird Cove.

We would argue, then, that our understanding of the local dynamics of economic and social life in Anchor Point and Bird Cove provides us with explanations of the major features of macro level migration trends: why the rate of in-migration of Canadians from other provinces is low, why the rate of net out-migration from Newfoundland is high and why the rate of return migration to Newfoundland is also high.

Conclusion

Our community studies of Anchor Point and Bird Cove have not been about anachronistic, quaint little villages of people living the unique life-styles of a bygone era. Rather, we have discovered living communities of vibrant people, coping as best they can on the periphery of North America. Under difficult conditions, they have managed to carve out their own variant of contemporary life-style, enjoying many of the amenities and practices of Canadians in all parts of this country. While official unemployment and reliance on unemployment insurance may be higher than the national average, and earned incomes lower, the people of Anchor Point and Bird Cove enjoy modern amenities and services and, largely through their own efforts, a quality of life that demands respect and encouragement. In aiming towards a future of environmentally sound, sustainable development, Canadians in other parts of the country should be willing to learn from the people of Anchor Point and Bird Cove.

Lords of the Arctic: Wards of the State

The Growing Inuit Population, Arctic Resettlement and Their Effects on Social and Economic Change

Colin Irwin, Department of Sociology and Social Anthropology, Dalhousie University

Introduction

Since the Inuit were moved into permanent settlements in the late 50's and early 60's a new generation has now grown up in the social and cultural environment of houses, villages, schools, hospitals, jobs, and television, etc. Some of the changes brought about by resettlement have been neutral with respect to demographic, social and economic change, others have had positive effects (e.g. lower death rates) and yet others may have been detrimental (e.g. higher unemployment). In the absence of a reversal of this resettlement process the Inuit living in Arctic communities in the year 2025 will be made up of individuals that have almost no personal recollections of a life lived independently "out on the land". Given the almost compelling certainty of this conclusion, a sense of the direction in which social and economic change is moving is essential if the social and economic expectations, desired by the Inuit, are to be realized. Looking almost half a century into the future is very difficult. This is probably especially true of the Arctic, where resettlement and a clash of cultures has produced very rapid social, cultural and economic change. During the past half century this change has been marked most notably by an abandonment of the aboriginal life style. At best this research can only attempt to predict the directions of change into the future by working from the assumption that there will be no change in current government policies for regional development in the Arctic. Inevitably this assumption will be false, but hopefully, by making this assumption, a picture of some future existence for the Inuit will emerge that will

stand as a bench mark from which desired futures might be better drawn and systematically planned.

The Inuit Population

In an effort to avoid the high death rates of the early 1950's the Inuit were resettled in the 1960's with promises of health care, free housing, welfare and education. These settlements have steadily grown. In 1981 the total Inuit population of Canada was 25,871, having doubled in the previous 20 years (Robitaille and Choinière 1986). This high growth rate is a product of both lowered rates of infant mortality brought about by resettlement, and associated health and social services, and traditional values that favoured large families. As a consequence of these factors the present Inuit population is, on average, much younger than the traditional population in which many more children died. At the present time all calculations made to estimate the future size of the Inuit population predict very high rates of growth. Robitaille and Choinière (1986) believe that the national Inuit population of 25,871 in 1981, will increase by 60% to approximately 41,000 by the turn of the century. The growth rate in the Northwest Territories is expected to be higher than the Inuit national average so that the Territorial population is predicted to increase from 15,905 to 25,757 during the same 1981 to 2001 period. As Inuit now wish to have smaller families the average age of the Inuit population will begin to increase. This change will place an increasing proportion of the Inuit population into the age group of those looking for work. Robitaille and Choinière (1986) predict that this age group (20-64) will double from 10,648 in 1981 to 21,206 in 2001. But the Review Secretariat's mandate is to look forward to the year 2025, so it may be reasonable to assume that the Inuit population will at least double or possibly triple by that date, however, even this speculation may be low.

The Inuit Economy

Hunting is still an important part of the Inuit economy although the fur trade and sale of fish does not provide very much income to those engaged in these activities. When asked, 88% of all the Inuit in Chesterfield Inlet said they had eaten Inuit food (meat or fish) the previous day. As food costs approximately twice as much to buy in Chesterfield Inlet as it does in southern Canada, the value of this food is considerable. Meat and fish is still shared through the network established by the extended family. This is particularly important for the elderly. Unfortunately the high capital and operating costs of mechanized hunting (about \$10,000 per year for the fully outfitted active hunter) seriously restricts hunting to those with a cash income so that those Inuit who do have a job, and hence an income, can afford to go hunting in the little spare time that they have, and they do. On the other hand, many Inuit who do not have a job and income can not afford to go hunting, although they have plenty of time to do so. As might be expected unemployment rates are higher amongst females, the young and the poorly educated. As the white population in the Arctic are very well educated they are rarely unemployed. For example, in the Keewatin Region the Labour Force Survey, (N.W.T. Bureau of Statistics, 1985) identifies 92% of the non-native population as employed (306 out of a possible 332) as compared to 48% of the native population being employed (1,143 out of a possible 2,380). In general terms it may be reasonable to conclude that approximately half the Inuit in the Arctic are unemployed after the employed white population are removed from the calculation. The present economic prospects for the Inuit may well be one of the worst in Canada marked as it is by poor levels of education and high unemployment that is further aggravated by the proximity of a white population that is well educated and enjoys almost no unemployment. In the short term this situation could be improved if the Inuit replaced the white people who came to the Arctic to take the trade, technical and professional positions the Inuit are not

considered to be qualified for. But even if this goal were completely achieved, within a single generation, more Inuit will still be unemployed in the future as the growth in the Inuit work force over the next 20 years is much larger than the total number of white people working in the Arctic today. Without the out-migration of the Inuit in their thousands, which is very unlikely, the number of jobs in the Arctic will have to be doubled, and then doubled again, if levels of employment, comparable with the rest of Canada, are to be achieved. Even this unrealistically optimistic prospect would require no in-migration of skilled workers from the south. High Inuit unemployment, it would seem, is quite unavoidable in the kind of wage economy that has been introduced to the Arctic during the past 30 years.

Inuit Education

Robitaille and Choinière (1985) note that 72% of the Inuit in the Territories reach grade 1 compared to 96% of the total Canadian population, 34% of the Inuit in the Territories reach grade 9 compared to 80% of the total Canadian population, 15% of the Inuit in the Territories graduate from high school compared to 52% of the total Canadian population and 1% of the Inuit in the Territories attend a university compared to 16% of the total Canadian Population. These statistics improve for the younger population who have grown up with schools in their communities. Of the Inuit in the age group 20 to 24 years old, 55% have reached grade 9 compared to 80% of all Canadians. Unfortunately this apparent improvement is distorted by the fact that these grades more closely correlate with the classes Inuit have been placed in as opposed to their level of academic achievement. For example, the 12 Inuit students who graduated from the Rankin Inlet high school with their grade 12 diplomas came into grade 10 with a tested grade average of only 7.2. It should be noted that these were the top Inuit students in the region. Many white people with children of junior high and high school age try to transfer to Yellowknife, if they work for the Government of the Northwest Territories,

or move south so that their children's education will not suffer during these critical years. As a consequence the children of white parents often receive a much better education than their Inuit counterparts so that they are able to successfully complete a program of higher education in southern Canada. The individuals who benefit most from any education system are those who are able to take the greatest advantage of it. In the Northwest Territories these people are the sons and daughters of the non-native Canadians who went north to help the native people of the region. Many of these sons and daughters are returning to the Territories, after they complete their university education, to take the professional positions that their parents may have hoped to see filled by natives. This perpetuation of higher education in a small and racially distinct segment of the northern population will sew the seeds of what is technically termed "structural racism". In the long term this is a recipe for social discord and possibly even social upheaval as the native people in this region of Canada are, and will remain, a majority. The failure of formal education in the Arctic is surpassed only by the failure of the education system in the Northwest Territories to teach and preserve the Inuit language, history and culture. Bringing the Inuit into settlements and providing them with television, dominated by southern programming, may well have done the greatest harm in this area of deep concern to the Inuit. However, a curriculum has only been developed to teach the Inuit language up to grade 4 and not enough Inuit teachers have been trained to deliver even this limited Inuktitut program.

Inuit Sociality

Although the traditional lines of authority, based principally on age, still exist, they are not as strong as they used to be. Several reasons are given for this decline, for example, due to the generation gap and culture gap, between the elders and the young, the sanctions of ridicule and gossip do not have the biting effect they once did. The threat of withdrawing the welfare of the community no

longer exists as welfare can now be obtained from the state. Respect was once given to the elders as they possessed the knowledge required to live in the Arctic. White teachers are now the primary source of the knowledge needed to live in the new Arctic and although they may not have gained the respect of the young, the elders lost their respect when schools and settlements were established. In a like manner the authority of the elders has been eroded as the RCMP, judges, missionaries and public administrators took over traditional roles of authority that had once been the exclusive right of the elders. This problem is further aggravated by the fact that most of these new authority figures are not Inuit. It is also important to note that the communities Inuit used to live in were very much smaller than the ones they live in today. They used to know everyone and their business. As a consequence of all these changes in Inuit social relationships, social dislocation and antisocial behaviour have increased at rates that exceed the growth in the size of Arctic communities. If the traditional social fabric continues to break down the need for more RCMP, and associated legal and correctional services, will probably increase at a rate that will exceed the growth rate of the Inuit population.

Conclusion

The problems of high population growth, high unemployment, low levels of education attainment, the decline of traditional language and culture, dependence on welfare and increased social breakdown are problems faced by the current Inuit population. In bringing attention to this fact I am not saying anything new. For reviews of some of these problems see Robitaille N. and Choinière R. (1985 and 1986), Keewatin Chamber of Commerce (1988), Indian and Northern Affairs Canada (1988), and Jackson E.T. and Associates Ltd (1988). However, when these problems are projected into the future, the potential for social and economic failure takes on tragic proportions. Clearly improving the quality of education in the Arctic is a first priority that can do much to

alleviate the situation, but the Federal Government may have to take responsibility for policing educational standards as the GNWT, and possibly some provinces, have failed to adequately monitor and maintain these standards throughout the North. Some standards, that were already low, may have actually been allowed to decline further. However even if the Inuit become well educated there will never be enough jobs to provide all the Inuit with employment in the Arctic wage economy. At the present time government institutions, both Federal and Territorial, have many Inuit who can not find employment in the limited job market of the Arctic and are forced to take welfare. This problem can only get worse, the Inuit are becoming, in every sense, wards of the state. If the social failure associated with a welfare culture is to be avoided, imaginative social programs will have to be implemented that will give all Inuit the opportunity to help themselves and their people through education, training, community service and participation in the subsistence economy. As these kinds of programs can be designed to be cost active, for example the Cree hunters assistance program (Salisbury 1986) and the NWT Housing Corporation Homeownership Assistance Program, the failure of Government to remove able bodied Inuit from the welfare roles is inexcusable and government must therefore take responsibility for the social failure this lack of appropriate social policy will produce.

References

- Indian and Northern Affairs Canada (1988) *A Northern Political and Economic Framework*, Indian Affairs and Northern Development, Ottawa, June.
- Jackson E.T. and Associates Ltd (1988) *Keewatin Human Resource Development Strategy*, Ottawa, June.
- Keewatin Chamber of Commerce (1988) *Business Initiative for the 90s*, Rankin Inlet, Northwest Territories, June.
- Northwest Territories, Bureau of Statistics (1985) *Labour Force Survey, Northwest Territories. December 1984*. Yellowknife.
- Robitaille N. and Choinière R. (1986) *Projections Concerning the Inuit Population of Canada*, Research Branch, Corporate Policy, Indian and Northern Affairs Canada. Ottawa.
- Robitaille N. and Choinière R. (1985) *An Overview of Demographic and Socio-economic Conditions of the Inuit in Canada*. Research Branch, Corporate Policy, Indian and Northern Affairs Canada. Ottawa.
- Salisbury R.F. (1986) *Homeland for the Cree: Regional Development in James Bay 1971-1901*. McGill - Queen's University Printer, Montreal.
- Rural Depopulation and the Saskatchewan Economy**
- Brian D. MacLean, Department of Anthropology and Sociology, University of British Columbia, A.B. Anderson and Peter S. Li, Department of Sociology, University of Saskatchewan*
- This summary represents one product of a large-scale research project aimed at assessing the relationship between rural depopulation in Saskatchewan and the small town economy. Commencing in July, 1987, the project, carried out by the authors and supervised by the principal researcher, aimed at tackling the investigation of this important social phenomenon in a variety of different ways. Saskatchewan is a geographically large province with a very small dispersed population some of which is located in farming areas within the 303 rural municipalities in Saskatchewan and some of which is located in a total of 506 communities ranging in size from a very small number of people to almost 200,000 people.
- These demographic considerations mean that a study of rural depopulation in Saskatchewan, if it is to be meaningful, must study the process at both a level which looks at the overall trends in

the province in its entirety, as well as the way in which those trends are realized at the local level. For a project of this nature, to carry out 506 individual community studies would be overly ambitious, while an analysis of macro-level data remains a feasible endeavour.

The current project has carried out an analysis of province-wide demographic and community data in order to assess the nature of demographic changes in Saskatchewan during the last 17 years and to further assess the relationship these trends might bear to socio-economic processes in small communities; however, while such an analysis may prove informative, the meanings of these changes for the communities in which they are taking place are not established by such research, and clearly such information is crucial for the policy formation process. For this reason, this study also involves an in-depth more qualitative component which aims at achieving such a goal. Hafford, Saskatchewan, situated within the Rural Municipality of Redberry, became the community for this investigation. Located approximately one hour's drive from Saskatoon, and with a population of 500-600 people, this community is somewhat representative of the demographic trends in Saskatchewan in that it has gained slightly in population over the past 17 years, while Redberry has realized a significant drop in population for the same period.

Thus, there are two major components to the study: a macro-level quantitative component and a micro-level qualitative component; however, during the course of the latter, a unique research opportunity became available which the authors felt would be useful if exploited. Because the Town of Hafford was celebrating its 75th anniversary, the Council planned a reunion for the Canada Day week-end (1988). In preparation for the celebration, the Town Hall prepared a list of some 3000 ex-residents of the area which contained the names and last known addresses of these people. Community studies and studies of migration rarely are able to question migrants about their experiences, reasons for leav-

ing, and so forth because these people are difficult to track down. The researchers decided to make use of this valuable information by conducting a mail-out survey of these ex-residents. The survey and its findings, then, while adding a dimension to the community study, provide a third component to the study.

Rural Depopulation in Saskatchewan: The Problem Stated

During the past 50 years, the population of Canada has been increasingly urbanized. In 1931, the proportion of the Canadian population in cities was 52.5% which has risen to 75.7% by 1981, an increase of approximately 44% living in cities as compared to rural locations. The process of urbanization has been even more pronounced for the prairie provinces, traditionally farming areas. For these provinces the proportion of the population residing in cities has risen from 32.4% in 1931 to 68.8% in 1981, an increase of approximately 114%. Urbanization in Saskatchewan has been yet even more pronounced, from 20.3% of residents dwelling in cities in 1931 to 58.2% living in cities in 1981, a growth of approximately 187% over the 50 year period. Clearly, the more traditional farming areas have been losing their population to the cities.

The process of urbanization has proceeded at a faster rate in Saskatchewan than in either the other Prairie Provinces or the country as a whole. It might be argued that the population of Canada has grown considerably during the past 50 years, however, and that migration into urban Canada is largely responsible for this increase. Such an argument cannot be made for Saskatchewan, however, because the total population of the Province has remained relatively stable (922,000 in 1931 and 968,000 in 1981) while the farm population has dropped from 564,000 in 1931 to 180,000 in 1981. Thus, for Saskatchewan at least, the comparative growth in urban population has been clearly at the expense of the farming population.

It can be concluded that Saskatchewan has experienced a decline in its rural population which exceeds that in other areas of Canada, probably because of the high proportion of farm land. A review of the literature suggests that many researchers have equated this trend with the reorganization of the farming sector. The rising capitalization of farming operations is generally equated with a population loss for two reasons. Firstly, as agricultural production becomes more capital intensive, less labour is capable of higher levels of production. The result is that the same area of farm land can be worked by fewer people. Thus the long term tendency is the erosion of the family farming operation and its replacement by the corporate farming operation. Secondly, because of the increase in productivity brought about by capital intensification, the tendency is for the number of farms to decrease while the average size of the farm increases.

One indicator of increasing capitalization of farming is the amount of machinery owned by the operation. The growth in mechanized farming is indicated by the proportion of farms reporting ownership of automobiles, trucks, tractors and combines in the Canadian census of agriculture, a proportion which increased for all four categories of machinery from 1951 to 1981. However, of key significance is the growth of ownership of combines, from about 45% of farms in 1951 to almost 75% in 1981. The agricultural economy of Saskatchewan is primarily grain production, and the harvesting of grain on large farming operations can really only be accommodated by ownership of this equipment. Thus, the significant increase of ownership of combines not only supports the notion that the capitalization of farming is increasing, but it also provides the basis for the increase in farm size and the decrease in farm labour necessary to farm the same area of land.

Thus, from the data presented to this point, it can be deduced that the average farm size in Saskatchewan will have in-

creased over the past 50 years and that concomitant with this increase is a decrease in the number of farms.

The number of farms has more than halved, from 136,000 in 1931 to 67,000 in 1981. Concomitant with this decrease, however, there is an increase of approximately 133% in the average farm size, from 408 acres in 1931 to 952 acres in 1981. Thus, in the Province of Saskatchewan, there has been a significant increase in farm size over the past 50 years which is associated with increasing capitalization of the farming sector and a decrease in both the number of farms and the population living on those farms.

It is not unreasonable to expect that the trends described above will continue to occur. The description of such trends is illustrative in that it depicts a changing social formation in Saskatchewan. Nevertheless, a number of key questions are raised by the acceptance of these trends as real which can only be answered through detailed investigation. Of key concern to this project were the following questions:

1. What social factors in Saskatchewan propel the rural to urban migration patterns observed over the last 50 years, but in particular over the last 20 years?
2. What effect does rural depopulation have on economic developments in small Saskatchewan communities?
3. What are the social, demographic and economic implications of these trends for the future of Saskatchewan?

Each of the three components attempt to answer these questions in different ways as enumerated below.

Macro-Analysis of Population and Economic Trends

The first component of the research involved a macro-analysis of population and economic trends. Between the census years of 1981 and 1986, 80% of rural municipalities lost population while 30% lost at least 10% of their population.

A key raised by these data concerns where this population has moved to -- larger urban centres or small towns located within the rural municipalities. A second question concerns the relation between where this population migrates to and its impact upon the local economy.

Information for this stage of the research came from a variety of sources. Originally, it was planned to obtain census data in order to establish the demographic trends; however, it became apparent that electronic files were available only to 1971 and that the census counts from 1971 to the present were inconsistent. In order to carry out a study with the detail required, it was necessary to have annual population counts. The Saskatchewan Health Services Plan (SHSP) maintains annual records of population. Because everyone residing in the province is eligible for free health care, these records represent an important and accurate annual head count of the population, despite the fact that there are some differences between these counts and the census counts for the various years. While these differences are recognized, they are generally small in nature and the SHSP data are generally regarded as more accurate. For this reason, these data were utilized in the study.

A total of 17 data files were purchased from SHSP which provided annual head counts partitioned by rural municipalities and communities. These data were collapsed into age categories by sex and became the basis for the analysis of population trends.

In order to establish the relations between the trends observed in the SHSP data and the local economies, a source of social and economic data for each community was required. While there are indeed a variety of sources of information, there is nothing which resembles a consistent data set, and the type of data collection and reporting varies from agency to agency. One important source of information is the Department of Rural Development in Saskatchewan (later transferred to the Saskatchewan

Department of Tourism and Small Business) community profile data. These data provide measures on a host of social and economic variables by community; however, for longitudinal analysis, these data are somewhat problematic. Firstly, these data were originally produced for communities in which the population exceed 500. Over time, the number of communities reporting increased so that only 50 communities provided year by year reports since 1971 on all information; these were ones with the largest populations and therefore of less interest to the project. Furthermore, in 1986, the Department of Tourism and Small Business began to report on communities with populations less than 500, those of most interest to the study.

While data files were constructed which contained measures on those communities with reported information back to 1971, it was decided that a one-time measure for 1986 on the social and economic variables would be of most benefit to the study. Such a strategy would allow for all communities reporting to be included in the study, and, once constructed, this data file was merged with the population data to construct a data file consisting of 506 communities. Because the social and economic data were based on one year's reporting (1986) it was pointless to included year by year population estimates for these communities. For this reason, it was decided to maintain population estimates for 1971, 1981 and 1986. The final data file then consisted of 506 communities with seven records of information for each: three records for the population of the community itself (1971, 1981 and 1986), three records for the population of the rural municipality within which the community was located (1971, 1981 and 1986), and one record pertaining to the social and economic variable estimates derived from the community profile data.

Once this data file was constructed, those communities which did not report community profile data and those in which the population was in excess of 5,000 people were excluded from the analysis, leaving the final data file with

304 communities with complete information for which the path analysis in this component of the research was carried out.

This component of the study found that it was the migration of the elderly population which forms the major basis for rural depopulation, and that gains and losses in the elderly population are largely dependent upon the 1971 population size. Local retail sales and the functional diversity of towns are largely dependent upon the changes in the elderly population, while distance from the nearest city and the condition of the local economy also affect services and retail trade significantly.

The study concludes that small town services and retail sales in Saskatchewan are sustained by the elderly population so that any decline in this population would probably be related to the demise of the small town economy.

The Community Case Study

The Town of Hafford, located in the Rural Municipality of Redberry, was the community chosen for the case study. This component of the study had two specific objectives. Firstly, the extent of depopulation in the town itself was to be determined as well as a qualitative assessment of both how this process was viewed by the residents and its impact upon the social and economic life of Hafford. Secondly, the depopulation of the surrounding rural municipality with its impact upon the social and economic life of the Town of Hafford was to be also determined.

Fieldwork for this phase of the project began in January 1988, and continued through July, 1988. Several field trips were made to the area by the research team, and the researcher employed for this phase of the project spent most of her time living in the community while conducting the field work.

Data for this component of the project was collected by a variety of methods. A series of in-depth unstructured inter-

views were conducted with a number of key townspeople chosen for interview because of their representativeness of a specific social group. Data from secondary sources such as 20 years of Town Council minutes were also collected and analyzed. Data from the seventeen population files acquired from SHSP provided the basis for a more detailed description and analysis of the demographic shifts occurring in Hafford, Redberry and Krydor (the only other town in the rural municipality). Finally, field observations of the local people in their daily activities were made, and more focussed interviews were conducted with members of the Town Council, the Board of Trade and the Office of the Rural Municipality.

For the Rural Municipality of Redberry there is a significant decline in the overall population which can be mostly attributed to the decline of the under 20 population, although there is also a slight decrease in the 65 and older population over the 18 years. For the Town of Hafford, there is a slight increase in the total population and a slight decline in the under 20 population while there is an increase in the elderly population. The Town of Krydor has seen a significant drop in all segments of its population over the past 18 years.

Thus it would appear that there has been a loss of the younger population in both the towns and the rural municipality, most likely due to both the poor job and educational opportunities as well as the reorganization of farming. However, a good portion of the elderly population lost in the rural municipality has been gained by the town. This finding confirms the importance of the elderly population in the sustaining of the small town economy identified in macro-analysis.

Consideration of population change from 1970 to 1987, and projections (calculated by logarithmic regression) of population trends to 2000 for the Rural Municipality of Redberry and the Towns of Hafford and Krydor, for the total population and the populations under age 20 and 65 and over, suggests

that, if the trends continue, Krydor will become non-existent, the Rural Municipality of Redberry will decline but not as rapidly as in the recent past, while the Town of Hafford should continue to grow. The data suggest that the number of the under 20 population will decline in the Rural Municipality of Redberry, decline sharply in Krydor, and decline very slightly in Hafford; the number of the 65 and over population is projected to fall in Krydor, fall sharply in the Rural Municipality of Redberry, and rise in Hafford.

The success of the Hafford local economy will be largely due to the increase in the elderly population derived mainly from the rural municipality and other smaller communities in the vicinity of Redberry.

Because there is a large proportion of young people leaving the Rural Municipality of Redberry, and because very few of these young people actually move to the Town of Hafford, the case study concludes that the town is living on borrowed time. The decline in the population of the rural municipality suggests that there is a very limited supply of aging people who can elect to retire in the town. When the findings from the macro-analysis are considered, it seems very likely that Hafford will not be able to compete with some of the larger centres for the elderly population who will look to larger communities for retirement, contributing to the growth of those communities instead of Hafford. Thus, unless Hafford is able to attract and keep a younger population, the past trend of a slight growth in the population may well turn into a future trend of rapid depopulation.

The Mail Survey

During the course of the field work for the community study, the research team became aware of the planned 75th anniversary reunion for the Town of Hafford to take place on the July, 1988, long weekend. In preparation for the celebration, the Town Hall had prepared a list of ex-residents of Hafford to whom invitations to attend the event were mailed.

The Town Hall kindly made this list available to the research team in order that a mail out survey of these ex-residents could be facilitated.

In total, 1,003 questionnaires were mailed out to a sample selected from the list using a systematic random sampling technique. Once the questionnaires began being returned, it became clear that the list obtained from the Town Hall included ex-residents of the entire rural municipality as well as some ex-residents from the neighbouring Rural Municipality of Blaine Lake. For this reason, a second mail-out was sent to those persons claiming to have never lived in Hafford, and these were asked to indicate their initial residence and to kindly complete the questionnaire. In total, 508 completed questionnaires were returned, 251 from the Town of Hafford and 256 from the Rural Municipality of Redberry (with 1 invalid response), for a response rate of 54.8% of eligible respondents. Such a response rate is considered to be high for a mail-out survey, particularly when conducted during the summer months when people are vacationing.

The questionnaire asked respondents for information pertaining to the length of time they lived in the area, their reasons for leaving, the difficulty in leaving, the attractiveness of living there, the unattractiveness of living there, the nature of their employment when leaving, the nature of their employment after leaving, the nature of their current employment, their educational level, their perceptions about the viability of Hafford, their age when leaving and their eventual place of residence.

The majority of respondents, 59.8%, were under the age of 20 when moving from Hafford or Redberry. By way of comparison, 59.6% of the respondents are now over the age of 55. A large majority of 78.7% of the respondents were single when leaving Hafford or Redberry but only 18.6% are now single. 73.2% of respondents are still residing somewhere in the Province of Saskatchewan.

A full 85.9% of respondents claimed that at the time of leaving Hafford or Redberry they had no plans whatever to return to the area while only 2.0% planned to eventually return.

43.5% of respondents cited their primary reason for leaving Hafford or Redberry as being to seek a better job, while another 33.6% also cited this as their secondary reason for leaving. Of the respondents originally from Hafford, only 12.6% cited their occupation as farming when leaving while the figure for ex-residents of Redberry was 64.4%. Now, however, only 2.6% of ex-Hafford residents and 4.2% of ex-residents from the Rural Municipality of Redberry cite their current occupation as farming, and in total only 10.7% of the sample currently live on a farm.

Only 9.3% of the sample claimed that it was a difficult decision to move from the area, while the most frequent difficulties in moving that were cited by respondents were emotional in nature

85.3% of respondents felt that the Town of Hafford had at least some chance of surviving as a viable community.

An Exploration of the Micro-Foundations of Internal Migration in Manitoba

*Greg Mason, Wayne Simpson,
University of Manitoba*

Objectives of the Research

This report considers migration from a micro-economic perspective. Conceptually the paper unites central-place theory with economic theories of inter-regional migration.

This research has three basic goals:

1. To review the model of internal migration. Rather than migration occurring between regions (e.g., inter-provincial migration), we hypothesize that migration occurs among central places.

2. To explore the processes of internal migration from a micro-household perspective.

3. To determine the feasibility of using survey techniques to obtain microeconomic data on migration to evaluate migration patterns and motives.

This research program attempts to advance the literature on internal migration by collecting better information. In a practical sense, we use Manitoba data and information from the prairie region generally to explore internal migration with a view to increasing the understanding of these processes. We use elements of central-place theory combined with traditional economic models of migration to develop a perspective on internal migration. Finally, while the relationships we explore are simple and serve primarily to describe the migration process, when viewed from a central-place perspective, it is easy to appreciate the potential of viewing migration within an urban settlement pattern. We argue that this is a viable and fruitful way of modelling internal migration.

Theoretical Background

This process of rural-urban migration is of basic concern to Prairie Canada. There is the well documented phenomenon that many of those employed in agriculture must make an often difficult transition to other occupations in urban areas. Also, urban growth is associated with a loss of prime farmland.

Also important, especially to those who have left the farm, is the idea that the values of community and self-reliance are eroding. For many, the small Prairie community is the crucible of traditional values and the loss of these communities is seen as a threat to these values. Thus, the political support for defending the small rural centre derives from both economic concerns and social values.

Internal migration is a neglected area of demographic research, not because demographers have undervalued the im-

portance of analyzing this phenomenon, but because data have not been available.

The economist views migration as a rational decision within a conventional constrained utility-maximizing framework. The various theories differ primarily in the specification of the argument of the utility function and the cost function. When the difference between other locations and the current place of residence becomes sufficient, migration is induced. Unemployment, interest rates, non-tradeable goods, clean air, security, etc., all enter the framework, and certain critical values trigger a migration decision.

A problem with this approach is that most of the economic theories use aggregate data in which inter-regional migration is related to economic conditions in the regions. The challenge in testing hypotheses is to classify causal attribution. For the most part, this is not possible since spatial aggregation masks these micro decisions.

The essence of central-place theory is that, as long as no geographical features disturb the landscape, urban settlements will arrange themselves into a hierarchy. Based on the familiar hexagonal rule of market areas, certain settlements begin to specialize. Centrality confers an important advantage and regional centres arise. These regional centres serve larger populations, and therefore lead to more specialized functions.

The result of cost minimization by consumers and specialization produces urban settlements at various sizes. As one moves up the hierarchy, the number of towns declines, they get larger and serve a greater range of economic functions.

Location or central-place theory provides a natural framework for migration. Since the vast majority of migrants move among urban settlements, the grafting of migration and central-place theory appears straightforward. The notion of a central-place system as ser-

ving migration links has been tentatively advanced in the literature. The system of urban settlements becomes the structure which supports migration. The linkage between economic migration and central places is now explored in some depth using the work of Andrei Rogers (1984) as a foundation.

Variations in the character of migration among central places are based on propensities to migrate. In turn these migration propensities are a function of attributes of the migrant and attributes of the central places, e.g., investments in social and medical services, economic conditions, and nontradeables. This general statement is a distillation of the existing literature.

The age-specific distribution developed and tested by Andrei Rogers and his colleagues is useful because it focuses attention on the migration propensities of people of different ages. The variation in the pattern of age-specific migration among central places becomes a useful perspective on internal migration.

Pathways of Migration

Imagine a system of cities where there are two high-order central places. Associated with these central places are lower-order settlements, serving local retail, employment and social functions. In this schematic, the lowest-order spatial position might be the individual farm but more frequently is a hamlet. Migration pathways between these places represent a number of possibilities. Consider the path directly linking a highest-order and a lowest-order place. This is a migration flow which probably has two components: first, there is the flow of young adults unable to secure employment in agriculture or the local community; second, there is a flow of retirees who have sold or bequeathed their land (the second group may also follow a path linking a lowest-order place to a regional centre). Recently, the collapse of agricultural prices has increased the flow along this pathway of middle-aged farmers forced to quit before normal retirement.

There may be reverse flows from the central places to the region. One possibility is that middle management may create a demand for rural amenity and encourage industry and business to locate in regional centres, served by the high central places (i.e., within an hour's or so drive) but sufficiently remote to provide a rural life style. There is also a reverse flow from the central place to "exurbia", which is usually a band of "bedroom" suburbs around the city. People live on the periphery but work in the city. Finally, there may be migration from the city back to rural places and certainly between central places.

What this simple schematic does is identify the pathways of migration oriented to a hierarchy of central places within a region. The concept of "region" is elusive. Economic regions usually do not coincide with administrative regions. An optional spatial concept is distance between levels in the settlement hierarchy. Here, the Prairie region is essentially from the Rockies to the western shores of Lake Superior. Most migration research has ignored central places in theoretical formulations, partly because the data are not available and partly because regional scientists and demographers rarely interact.

The Empirical Research

This research is oriented toward the micro-foundations of migration and uses original telephone and mail surveys to develop an understanding of migration movements in Manitoba and western Canada.

In Survey 1, a telephone survey of Manitoba residents, we evaluated question wordings, explored probable sample sizes and evaluated the feasibility of a mail survey. Once the feasibility of a mail survey had been established and funds secured, we used regular Omnibus surveys (also telephone surveys of Manitoba residents) in January, February and March, 1988, to enrol potential respondents (those who had been identified as having migrated in the last two decades) for the mail survey. These Omnibus surveys are designated Sur-

vey 2. As enrolment proceeded, we developed, tested, and conducted the mail survey (Survey 3). As a final step in the analysis, we explored migration across a wider spatial range, namely the Prairie provinces, using a telephone survey (Survey 4).

While Surveys 1 and 2 did result in significant data collection, their role is less important than the western Canada survey or the mail survey conducted within Manitoba.

The results of Survey 4, of the three Prairie provinces, demonstrate some differences but for the most part these are readily explained by differences in the size distribution of central places. In general, the process and explanations for internal migration appear to be similar in all three provinces. We tested the differences among the provinces using Chi-square tests and no statistically significant differences ($P=.05$) were detected. This provides a basis for using Manitoba for more intensive analysis to model sub-regional migration.

Main Results of Mail Survey in Manitoba

Recalling the work of Rogers where the age distribution of migration assumes a particular shape, we see a similar pattern in the mail-survey data. Migrants are the very young (47.3% of the most recent moves and 68.2% of the second most recent moves are made by people aged 4 or less), with a sharp drop for those aged 5 to 19, followed by a peak (32.8% of the most recent moves and 21.5% of the second most recent moves are made by people aged 20 to 34), then decline. This is the classic internal-migration pattern.

A basic rationale for migration is economic. Prior to moving, a significant number of respondents (22.3% before the most recent move, 26.4% before the second most recent move, compared to 13.0% at the time of the survey) report having been unemployed. The fact that past migration is associated with higher unemployment levels is simply explained

by the fact that respondents are reporting migrations when they were younger.

A prime motivation of this research is to explore the micro foundations of migration, since this is an obvious gap in existing data sources. Therefore, considerable effort was made to collect information from respondents on why they moved. In response to the question "Why did you move?", 45.9% of the reasons given as the main motivation for the most recent move were economic, compared to 52.7% of the reasons for the second most recent move. Personal and educational reasons thus have an edge for the most recent move, when respondents are older, and economic reasons for the second most recent move, when they were younger.

Another hypothesis is that there is a "dip" in mobility for mid-sized households. The data show that single people and double-headed households with 2 or 3 children are more likely to move for economic reasons than other household types. This supports the notion that families with one child and families with more than 3 children are less "economically mobile". Of course, there is a commensurate rise in mobility for personal reasons in these household types, since all these households have moved.

Propensities to Move

A block of questions on the survey relate to the likelihood of moving under various hypothetical situations. It is striking that most respondents did not consider economic incentives as significant in making a move. In all five situations, the percentage who consider themselves unlikely to move never falls below about 40%. Just over a quarter of respondents think they would move if they or their spouse were offered a job with 25% more pay, and about a third think they would move if their employer or their spouse's employer transferred them. Even unemployment of a year or more combined with hearing of jobs in another city is considered as a situation in which they are likely to move by only 40.6% of respondents.

Movements Within the Central Place System

The final empirical task involves evaluation of the movement within the central-place system of Manitoba. It is worth considering what exactly is meant by a central-place system and how we operationalized this concept.

The first step was to review the changes in population for named central places within Manitoba. The top 88 urban settlements were selected on the basis of an arbitrary population count in 1986 and the ability to trace these settlements backwards. Information on these settlements was collected for 1951 to 1986 using Census data.

The settlements were classified into six categories, five representing the central place hierarchy of Manitoba from smallest settlement (1) to Winnipeg (5) and one consisting of Winnipeg's bedroom suburbs. All moves could then be represented according to the relative rank orders of the origin and destination communities, resulting in 36 possible movements between central-place pairs. Out of a total of 458 valid responses, there were 33 respondents who reported that their most recent move was from Winnipeg to towns within the lowest central place. This is reasonable within the context of Manitoba's spatial evolution, as shall be explained below. Further, 45.2% of the movements are from lower-order central places to Winnipeg. Some 38% moved from towns in the lowest order to Winnipeg.

The data indicate the following:

1. Movements up are 56.3% and movements down are 24.6% of all movements between central-place pairs. Therefore, the net movement has been up the central-place hierarchy.
2. Movements of one step up account for 10.9% and one step down for 6.3% of all moves.

3. Jumps from the bottom of the hierarchy to the top account for 17.0% of all moves and from top to bottom for some 7.2% of all moves.

Conclusions

This research has investigated the relationship between migration and central places. Several large surveys were undertaken to gather data on migration and central-place movements. In view of the original objectives, the following has been established.

1. The merging of central-place theory and migration theory is a fruitful way of exploring intra-regional or internal migration.

2. There are clear relationships between household attributes and migration propensities. Unfortunately, to link these into a central-place structure requires very large data sets to allow for the multivariate expression of household and individual attributes and several levels of central place.

3. In Manitoba, the increasing role of Winnipeg is clearly demonstrated by the movements of migrants. Simply recording relative population growth by settlement is unsatisfactory since the census definition of central places is inadequate. Using a micro orientation clearly portrays the net up-migration as twice that of down-migration. This is a significant number and points the way to continuing growth of Winnipeg and higher-order centres relative to smaller communities. This approach is an evocative way of expressing and measuring the depopulation of the rural regions.

This research must be subject to caveats. The use of surveys in migration analysis has been clearly shown to be valuable. That being said, some features of surveys require considerable care:

1. The definition of a move between central places requires great care. The use of a telephone survey probably does not exclude eligible respondents, but it does have a tendency to include ineligible respondents.

2. The specification of models of movements along a pathway requires very large data sets, in the order of 3,000 to 4,000 respondents. This research has shown the basic feasibility of undertaking this research, but full testing remains tantalizingly out of reach.

3. The location of a move in the past is not hard, but respondent recall of salient socio-economic facts is uncertain and likely fraught with error. In-person interviews may lessen error in this regard, but clearly at higher cost.

4. Finally, a potentially important problem is the definition of central places. In many areas, such as the Windsor-Quebec corridor, this approach may not be viable. Even around Winnipeg, this approach poses some analytical and measurement challenges.

To conclude, we have demonstrated that central-place theory and economic theories of migration may be successfully integrated and that this provides a viable way of examining the relatively rapid rural depopulation presently affecting Manitoba.

References

Rogers, A. (1984). *Migration, Urbanisation and Spatial Population Dynamics*, London: Westview Press.

✧ Population Redistribution of the Elderly and its Impact on Services and Government Financing

*E.G. Moore, M.W. Rosenberg,
Department of Geography, Queen's University*

There is general agreement that both the relative and absolute size of the population over 65 in Canada will increase significantly in the next twenty years (Foot, 1988). There are many ramifications of this increase for Canadian institutions, most particularly that greater pressure will be placed on all three levels of government to provide financial resources and resources in kind to the elderly population. The great majority of

discussions about the impacts of aging have taken place at the national and provincial level (e.g., Economic Council of Canada, 1986; Foot, 1986; McDaniel, 1986, 1987; Stone, 1988; Stone and Fletcher, 1980). Although these are the levels at which the major policy and programmatic decisions are made, the impacts of aging on regional and local populations are also significant, particularly in the context of the design and implementation of specific programs. Unfortunately, little attention has been given to the geographical structure of aging within the provinces.

The overall objective of our research is to examine the changing geographical distribution of the elderly population of Ontario and its fiscal implications at the county level. We analyze the current demographic structure of the elderly population, the degree of economic dependency of the elderly, and the current financial resources expended by local governments on the elderly population. The relationships identified are then used as the basis for providing projections of the future distribution of the elderly population, its level of economic dependency, and their general implications for public policy.

The Demographic Structure of the Elderly Population at the County Level in Ontario

Both the current distribution of the elderly and its recent changes are strongly differentiated at the county level. In our analysis we break down growth between 1981 and 1986 into its components of cohort survival and net migration. The elderly experience much lower mobility than the rest of the population (only 7 percent of those over 65 migrated between 1981 and 1986); as a consequence, cohort survival is the predominant mechanism of change for the province as a whole, and for the major metropolitan areas in particular. Only in the metropolitan fringes and in higher-amenity rural areas does net migration attain approximate equality as a contributor to change.

Particularly important to our subsequent argument is the demographic momentum built up by earlier large-scale suburbanization in the Metropolitan Toronto region. For the counties of Halton, Peel, York and Durham, the growth in elderly is beginning to accelerate as the early suburbanites reach retirement. These areas have the fastest growing elderly populations in the province, with the fringes of Ottawa-Carleton experiencing a similar phenomenon.

In the central areas of Toronto and Ottawa, however, aging is a combination of net out-migration of younger populations as well as internal aging. A secondary factor of importance is the significant role played by international migration, which currently serves to balance the outmigration from central to suburban counties. Future metropolitan populations will be particularly sensitive to federal immigration policy.

Outside the metropolitan regions, both the northern counties and many rural fringe counties are net losers of population from migration, although the losses are more than compensated by increases from cohort survival. Net gains are most noticeable in areas of high amenity such as the Muskoka-Kawartha region and the suburban fringe counties of Metropolitan Toronto. The emerging issue for the high amenity areas, whose populations are largely between 65 and 75, is whether they will retain this elderly population as it ages and becomes more service dependent.

The Importance of Migration in Understanding the Distribution of the Elderly in Ontario

The future distribution of the elderly is sensitive not only to its own migration but also to migration of younger cohorts. Nowhere is this more evident than with respect to the long run consequences of the suburbanization of the 1950s and 1960s. In the shorter run, however, the predictability of the effects of migration is more problematic.

We found that the effects of the 1982 recession on migration during the period from 1981 to 1986 were substantial, although they were far stronger for the younger labour force age groups than for the elderly. The overall propensity to migrate declined during the recession, and the areas which traditionally gained from migration, particularly in the Metropolitan Toronto region, lost ground. Non-metropolitan areas, primarily in Eastern Ontario, gained a competitive edge, although net out-migration from Northern Ontario was sustained throughout this period. However, as the economy recovered, the earlier migration patterns re-established themselves.

The main point to emerge from this analysis is that the migration response to the economic shock of the recession was almost instantaneous and significant. Any longer-lasting economic recession (or depression) would have even greater impact on local population distributions. Such changes are almost impossible to forecast and suggest not only a cautious view of projections at the local level but also that a program of continual monitoring is necessary.

Fiscal Impacts of the Elderly Population in Ontario

Federal and provincial transfers within the framework of income security programs constitute a significant component of public spending on the elderly. At the local level, these transfers contribute to differential levels of vulnerability to change in public policies. Unless it is responsive to the spatial variations in the dynamics of the target group, a decrease in transfer payments will have significant impacts on some counties and little impact on others.

To assess the vulnerability of counties, payments for Old Age Security (OAS), the Guaranteed Income Supplement (GIS), the Canada Pension Plan (CPP) and the Guaranteed Annual Income Supplement (GAINS) are combined to produce a ratio of transfer payments to employment income by county. This economic dependency ratio increased

by more than 20 percent in all but 10 out of 53 counties, and universally exceeded the rate of growth of the old component of the demographic dependency ratio (the ratio of those over 65 to those aged 20 to 64). To a large extent, the rapid increase is attributable to the growth in individuals receiving CPP/QPP payments, and the rate of growth should slow in the future.

The counties where the economic dependency ratio is high tend to be in the rural parts of central and eastern Ontario, which are also those counties where the proportion of the elderly population is high. A more focused picture emerges when we examine those elderly who receive the maximum benefits from GIS, as these comprise the elderly with lowest incomes. These individuals are concentrated both in those areas with high economic dependency ratios and in every county in Northern Ontario.

Although some of the elderly who collect GIS may be "asset rich" while being "cash poor", there is going to be a strong correlation between the distribution of the elderly who experience economic difficulties and the demand for publicly provided services at the local level. If such demands are in the same counties where the economic dependency ratio is high, then local governments in these areas are also most likely to have the weakest revenue base for supporting services for those in need.

The second focus of our analysis of fiscal implications was on the revenue and expenditure patterns of local governments in Ontario between 1981 and 1985. Per capita local government revenue increased during the period 1981 to 1985 in real terms. However, during the same period the proportion of local revenues attributed to transfers from other levels of government declined across the board, with the larger declines tending to be in jurisdictions with larger dependent populations. Most areas sought to replace these revenues with increases in property taxes; in 7 counties in Northern Ontario, per capita property taxes increased by more than twenty percent in constant dollars.

The structure of expenditure proved less amenable to analysis. Per capita changes in reported spending on the elderly, while generally increasing in real per capita terms, did not reflect shifts in underlying demographic structure in any systematic way. Two possible explanations are suggested: in some counties, the revenue base is too small to accommodate shifts in underlying demography; in other counties, a more likely scenario is that the existing service delivery infrastructure makes the political act of shifting resources to meet new needs from different groups very difficult.

Future Trends and Implications

The projections used as the basis of future trends assume only very small declines in mortality over the period 1986-2006, a total fertility of 1.67 and migration behaviour similar to that of the late seventies and early eighties. The general results are quite robust and would require substantial shifts in migration behaviour to alter their essential features.

By 2006, the population over 65 in the province will have grown to 1.56 million, an absolute increase of 57 percent over 1986, and will constitute 14.2 percent of the population as compared with 10.7 percent in 1986. The most important outcome will be the dramatic change in the distribution of that population. The demographic momentum mentioned above will carry the two metropolitan regions of Toronto and Ottawa-Carleton to a position of dominance of the elderly distribution, both in relative and absolute terms. Apart from Haliburton and Niagara, they will have the highest proportions of population over 65 in the province. The areas which are currently "old" will change little, and thus the spatial variation in the elderly proportions will be drastically reduced.

Two other demographic trends are also significant. First, the decline in the proportion of the population which is under 20 will be substantially larger than the increase in the elderly. Thus the overall level of demographic dependency

will change little (Foot, 1988), although its structure will alter. Secondly, among the elderly, the proportion over 80 will increase dramatically (the absolute number will increase by 112 percent in twenty years). Much of this increase will probably occur in those areas which are currently "old". Unfortunately, we have virtually no data on the propensity of dependent elderly to move to areas with better services and therefore we have no basis for projecting a redistribution of this sub-population, although such a redistribution may occur.

The elderly of 2006 are also likely to be better off economically than the elderly of today. As an increasing number of women participate in the labour force on a continuous basis, an increasing proportion of the elderly of both sexes will have private pensions and CPP/QPP as part of their financial support package in retirement. The increasing health consciousness of today's population will mean that, for the young elderly at least, they are likely to be a healthier and more mobile elderly population. But we should not ignore, amongst these positive trends, some serious issues which will also arise.

Clearly, with no change in the structure of income security programs, in every county of Ontario in the year 2006 there will also be a significant increase in the elderly component of the economic dependency ratio. The dependent group in particular, but also the elderly population in general, will demand more services oriented toward their special needs. More of the elderly are likely to be single as the divorce rate and the proportion who never marry continue to increase. With this increase, and the eventual decline in health status which inevitably occurs with old age, the demand for publicly financed forms of congregate housing and residential care will increase.

These trends are likely to exert considerable political pressure at the municipal level. Municipal governments will have to find ways to deliver more services and provide new forms of housing for the elderly. But their ability to do so will

be constrained by the limits on their sources of revenue, particularly property taxes and external grants. Increasing revenues from property tax can only come about through increasing the number of taxable properties or increasing the mill rates. In many places in Ontario already, there are constraints on developable land and this situation will become increasingly the case in southern Ontario as we move into the next century. On the other hand, there is a limit to how much mill rates can be increased before there is a taxpayers' revolt; witness Proposition 13 in California. In addition, a more general problem with increasing revenues through the property tax is the inherently regressive nature of this form of taxation.

If there is little room to increase revenues through the property tax, what of the other alternative, external grants? We found in our analysis of municipal finances that the proportion of revenues from external grants declined between 1981 and 1985, particularly in those areas with larger dependent populations. Given other pressures on the provincial and federal governments, this trend is likely to continue, at least into the immediate future.

On the expenditure side, a major challenge is posed by the observation that the major demographic shifts are in the size and distribution of the population under 20. Are municipalities able to shift the emphasis in local spending from one age group to another, or will the existing infrastructure impose pressures to maintain funding for child and youth services at current levels? The argument may well be made that now is the time to spend more to improve the quality of current services. While there is undoubtedly some validity in this argument, the fact remains that the ability to expand local revenues (particularly in a non-regressive manner) is limited in many jurisdictions, and the capability of higher levels of governments to increase transfers to local governments is also constrained. Under these circumstances, internal reallocations will be of major importance.

For the provincial and federal governments, the implications of our analysis are somewhat different. There is little recognition in the allocation of resources, particularly at the federal level, of the tremendous geographic variation in the distribution of the elderly and more particularly in the geographic distribution of the economically distressed elderly. A good illustration of this is OAS/GIS. It is indexed to inflation but the cost of living varies dramatically across Ontario. Higher costs of heating, food and transportation in northern Ontario are countered by substantially higher shelter costs in southern Ontario, particularly in the metropolitan areas. Shelter costs are particularly onerous for the elderly who rent, but elderly homeowners with reduced incomes are very sensitive to increases in property taxes, which are also much higher on a per capita basis in southern Ontario. Since averages hide too much, a more sensitive analysis of the changing income and expenditure distributions of the elderly at the regional level is desirable.

The pressures described at the local level are likely to be transmitted forward to the provincial and federal governments. How will these levels of government respond? On the one hand, an optimistic view would suggest that, just as the provincial and federal governments have recognized that local governments need help in providing daycare facilities today, they will recognize that local governments will need help to a much greater degree in providing services and housing for the elderly into the future. A pessimistic view, however, is that the budgets of the provincial and federal governments are as constrained as those of local level governments, meaning there is only one other alternative course of action: the reallocation of resources from other areas of spending to spending on the elderly.

It is likely that this story will repeat itself in other provinces. The challenge in most regions will arise in the demographic transformation of metropolitan rather than rural areas. Constrained

budgets will pose the political challenge of reallocating resources from a declining youth population to an aging population. Expanding revenues, if such expansion is possible, should come preferably from more fiscally progressive provincial or federal sources than from the regressive nature of local property taxes. However, the fundamental political challenge will be one of shifting resources from one age group to another when the infrastructures which currently supply services to the two groups are quite different.

References

Economic Council of Canada (1986), *Aging with Limited Health Resources*. Ottawa: Supply and Services.

Foot, D.K. (1986), "Population aging and immigration policy in Canada: implications and prescriptions," *Population Working Paper No. 1*. Ottawa: Policy Development, Canada Employment and Immigration Commission.

_____. (1988), "Public expenditures, population aging and economic dependency in Canada, 1921-2021," *Population Research and Policy Review*. 7 (3), Special Issue on "Population Issues in Canadian Public Policy".

Liaw, K.L., and Ledent, J. (1986), *Explanation of the Spatio-temporal Pattern of Interprovincial Migration in Canada: an Application of the Nested Logit Model*. Hamilton: McMaster University, QSEP Research Report No. 153.

McDaniel, S.A. (1986), *Canada's Aging Population*. Toronto: Butterworths.

McDaniel, S.A. (1987), "Demographic aging as a guiding paradigm in Canada's welfare state," *Canadian Public Policy*. 13 (3), 330-336.

Stone, L.O. (1988), *Family and Friendship Ties among Canada's Seniors*. Ottawa: Statistics Canada, Cat. No. 89-508.

Stone, L.O. and Fletcher, S. (1980), *A Profile of Canada's Older Population*. Montreal: Institute for Research on Public Policy.

Impact of International Immigration on the Linguistic Balance in Montreal

Calvin Veltman, University of Quebec at Montreal

A whole set of very complex linguistic situations must be analyzed in order to forecast the size of linguistic groups in Montreal, especially in a multi-regional context. Although in the United States or other parts of Canada, linguistic influx is channelled into a single adopted language, in Quebec there are two languages that may be adopted, French and English. In addition, members are exchanged between these two language groups. Above all, linguistic transfers seem to contribute to the creation of many kinds of "bilingualism", the implications of which are not at all clear. This project attempts to resolve these difficulties.

Linguistic Mobility of Immigrants

American studies show that linguistic mobility is largely determined by the age at which immigrants arrive in the receiving country and how long they have lived there. Younger immigrants have much greater linguistic mobility than their elders, probably as a result of mandatory schooling for children in the receiving country.

In addition, the process of linguistic mobility is set in motion very quickly for immigrants, as soon as they set foot in the country. Within ten years, most of them will speak the language of the new country fluently, either as their second or their main language, and after fifteen years of residence, the process will be complete. Still according to American surveys, use of the mother tongue as a second language continues to decline after the fifteen-year period, the time it takes for the children to set up their own households.

However, the same methodology produces contradictory results in the case of Montreal, depending on which indicator is used for linguistic practice. If we select the language spoken with friends as the indicator of linguistic practice, then Montreal allophones are quite similar to Spanish Americans, at least according to figures compiled by the Institut québécois de recherche sur la culture. If, on the other hand, home language is chosen as the indicator, the findings are more surprising: the level of linguistic mobility is lower than that of the Spanish American group, and there is no relationship between the age of immigrants upon arrival and their linguistic practice. Because of these extremely divergent results, we decided to consider two different indicators of language use in this study: the one used by Statistics Canada and the language used spontaneously by young people at school.

Language at School

A number of important conclusions may be drawn from an examination of the student records of the Quebec education department. First, the strong tendency for allophones to adopt English as the language customarily used can be seen as a logical result of the policy which prevailed in the education

system prior to 1974, a policy which allowed freedom of choice in the language of instruction. Greek and Italian children therefore found themselves in schools which favoured their social integration into the English language group.

Still according to official statistics produced by the Quebec education department, French is slightly ahead of English among other groups (combined), and its lead is even more pronounced among the children of the new wave of immigrants (Haitian, Latin American and Sino-Vietnamese). This is an obvious consequence of Bill 22 and Bill 101. Since language legislation makes it obligatory for these children to be taught in French, they come into contact with Francophone pupils and are francized. The study reveals that allophone stu-

dents attending French schools with a Francophone or allophone majority are for the most part francized, while those registered in schools with a significant Anglophone element are usually anglicized.

Furthermore, the levels of linguistic mobility calculated from our survey of school children are higher for all three major groups than the estimates produced using the records of the Quebec education department, and in the case of Francophone and Anglophone students our figures are between three and five times higher. Although we did not place great emphasis on the linguistic mobility of Francophones and Anglophones in our preliminary research proposal, this has now changed. Still according to our school survey, the very great majority of allophone students usually speak French or English, apart from those who are in classes for recent immigrants. In the latter group, however, the native language rapidly gives way to French.

We also used a multivariate analysis to eliminate certain hypotheses regarding the way linguistic mobility was affected by variables such as the language of the neighbourhood, the language of instruction, or membership in a given ethnic group. Our analysis showed that these factors act on the linguistic mobility process of students only to the extent that they affect the school's linguistic composition. However, the analysis revealed the existence of a "natural advantage" possessed by the Anglophone group, which was reflected in a relatively high level of anglicization of young Francophones, among other things.

Our findings led us to develop a few alternative hypotheses regarding the linguistic mobility of young people. For example, we estimate the lower limit of anglicization of Francophones at approximately 3 per cent, which is the level found later on in the 1986 census, and its upper limit at 5 per cent. The corresponding figures for the francization of Anglophones are 6 and 7.2 per cent, the latter figure being, for all practical purposes, that obtained from the 1986

census. These reference points are adopted later on as hypotheses for the linguistic practice of young people.

Analysis Based on 1986 Canada Census Data

Since we refuse to accept multiple responses to the questions concerning mother tongue or language used, we attempted to give some meaning to the different types of bilingualism reported by Montrealers. Based on the assumption that French and English benefit from linguistic transfers from allophone minority groups, we adopted a system of data classification which designates the allophone language as the mother tongue and the adopted language as the language used. Such a system clearly has significant impact on the allophone group: it becomes as large as the Anglophone group, while its linguistic mobility rates rise dramatically in comparison with the traditional treatment.

By placing the adopted language first in cases of bilingualism, our approach in a way "anticipates" the resolution of a bilingualism which is for the most part transitory. Nevertheless, it has the advantage of dividing allophones between the two major groups - Anglophone and Francophone - at least in so far as they have already chosen to join one group rather than the other.

A brief analysis of the transfers between the four language groups used in the analysis - Francophones, Anglophones, allophones and a new group of bilingual (French and English) individuals - reveals that this last group adds over 46,000 individuals for the purpose of the transfers, the Francophone group approximately 14,000 individuals, and the Anglophone group over 127,000 individuals, including approximately 23,000 with French as their mother tongue. The allophone group loses over 110,000 members to the Anglophone group and 49,000 to the Francophone group.

Our analysis of the data also supports the theory that the allophone population has undergone constant francization for

at least the last fifteen years, despite opinions to the contrary held by many Quebecers and Canadians. This discovery is of prime importance, and it also confirms our findings regarding linguistic trends in the schools. In our research, therefore, we have not considered any hypotheses which give the lion's share of future linguistic transfers to the Anglophone group. Allophone immigrants are thus becoming progressively more Francophone with time, like their children born in Quebec or Canada.

In addition, linguistic assimilation of allophone immigrants takes place very rapidly, starting from their arrival in the country, and reaches levels which are very similar to those observed among American allophones, especially among adult immigrants. We therefore conclude that, from a linguistic point of view, Quebec integrates its immigrants at about the same speed as the United States, with the exception of the Spanish American group. Furthermore, our study shows that linguistic assimilation is for all practical purposes complete starting from the first Canadian-born generation. The fear that Quebec will become a polyglot society in the medium or long term is therefore completely unfounded.

Transfers Between the Three Major Language Groups

Contact between the French and English languages in Canada, and Quebec in particular, appears to have produced a new bilingual "language group", but this language practice is highly unstable. The majority of people who claim bilingual mother tongue (French and English) are with respect to the language normally used, unilingual, and for the most part French-speaking.

As for the two major adopted language groups, our study confirms on all points the work of Termote and Gauvreau (1988). Anglophone immigrants resist francization best, while those Anglophones born in Quebec are most likely to adopt French. Among Francophones, those born in Quebec remain most fai-

thful to French, while those born in the rest of Canada and Francophone immigrants move in greater numbers toward English.

However, our discussion adds two new elements to the examination of linguistic mobility. The first is the transitory nature of French-English bilingualism as a language normally used, for both immigrants and Canadian-born individuals. In the case of the Francophone group, the position of French-English bilingualism diminishes with time, while anglicization becomes increasingly important. In the Anglophone group, bilingualism yields ground to French as the language normally used.

Furthermore, the data suggest that an upset occurred at the start of the 1970s in the Francophone-Anglophone balance in Quebec. The number of Anglophone immigrants from outside Canada is decreasing steadily, and our analysis shows an upward trend in linguistic mobility. On the Francophone side, immigrants appear to retain their mother tongue as the language normally used more often now than in the past. In addition to these two observations, there is the already-mentioned fact that the linguistic practice of allophone immigrants has changed significantly since the early 1970s.

In fact, the only cloud on the horizon is the linguistic behaviour of Francophones born in Quebec. There is no sign that anglicization of this group is slowing; on the contrary, the data suggests that adolescents and young adults are already more anglicized than expected, which in a way confirms the reliability of our survey in the schools. Given the numerical importance of Francophones born in Quebec, this weakening augurs ill for the future of French, despite a change in direction by the other elements of the Montreal population.

Development of a Model for Linguistic Mobility

To start, the base population is taken from the 1986 Census, of Canada according to parameters which we ourselves

selected: two sexes, four mother tongues and four specifically-defined languages normally used, three places of birth, four immigration periods, nineteen age groups and seven sub-areas of the Montreal Census Metropolitan Area (as well as two areas outside the project, namely the rest of Quebec and the rest of Canada). These base data are kept intact as the point of departure for our forecasting model.

In order to show changes in linguistic mobility over time, we created a theoretical model comprising twelve base matrices, that is, according to mother tongue and place of birth. These matrices were then adjusted to take sex and place of residence into account, so that a total of 168 matrices were generated as part of the linguistic mobility model. These matrices tend to represent the linguistic status quo, namely the levels observed in 1986.

Next, we took a look at a few different scenarios for future linguistic trends in the allophone group. First, we proposed two scenarios for the distribution of immigrants between the French and English groups. Second, in line with our findings regarding linguistic practice in schools, we decreased the levels of language retention observed for young allophones.

As for Francophone students, the only scenario examined as part of this project was an increase in the rate of anglicization to 5.0 per cent. However, we proposed two ways of reaching this target, one more favourable to French, and the other less favourable. In the case of the Anglophone group, we proposed the second approach only, since the first was for all practical purposes identical to the one presented by the Census.

Regional Variations in Linguistic Mobility

This analysis once again supports the observation that anglicization is more or less the norm, and francization the exception. The ranks of the Francophone group are increased only when the Anglophone group is absent.

Even a relatively slight Anglophone presence (on the South Shore, for example) is enough to weaken the francization of non-Francophones. Nevertheless, regional variations remain significant enough that we have to adjust the metropolitan model to "correct" the distribution of linguistic mobility according to adopted language group.

Forecasts of Linguistic Composition to 2011

Setting aside the scenarios for linguistic trends, the other parameters of the demographic model (fertility, mortality and international, inter-regional and intra-regional migration) are designed to duplicate as closely as possible those observed between 1981 and 1986. Nevertheless, there is one scenario which explores how the linguistic balance would be affected if the level of international immigration were twice as high as it was between 1981 and 1986.

According to our forecasting model, the Anglophone group will continue to shrink between now and the year 2011, while the number of Francophones will continue to grow in the Montreal region. The Francophone group will gain an increasingly large share of linguistic transfers from allophone groups, while anglicization will stabilize, and then regress, over the forecasting period. A higher level of international immigration would be slightly to the advantage of the Anglophone group, but would not offset its declining numbers:

As for the scenarios based on the linguistic practice of students, our analysis shows that the linguistic situation should stabilize somewhat toward the year 2011. The shrinking of the Anglophone group is therefore less pronounced, as is the growth of the Francophone group, that is, in comparison with the data taken from the 1986 Census. This finding is of course due to increased use of English (as the language normally used) among young Francophones in the Montreal area.

Immigration and the Changing Ethnic Mosaic of Canadian Cities

T.R. Balakrishnan, Department of Sociology, University of Western Ontario

The ethnic composition of Canada has been changing substantially since the Second World War primarily through immigration patterns. Not only have the numbers of immigrants fluctuated from year to year but also their ethnic origin. The shift has been from Western European to Southern and Eastern European in the 1950s and 60s and, in the last two decades, from European to Third World origins. The impact of these trends on cities has not yet been well understood. Immigrants to metropolitan areas are selective in terms of their ethnic background, language skills, occupation and educational attainment.

In the broader perspective, immigrants are subject to two powerful opposing forces, one to assimilate quickly into the wider Canadian society, mostly composed of the charter groups of British and French, by learning and adopting their languages, customs, values and behaviour. This will aid their acceptance in the host society as well as increase their chances for social mobility. At the same time, there is a strong desire to maintain their identity and culture and derive emotional and psychological satisfaction from such group cohesion. These forces create distinct patterns of settlement and inequalities among the ethnic groups in social class and occupational achievement. Further, their impact on the various ethnic groups is not the same. Certain ethnic groups establish distinct neighbourhoods and retain cultural traditions much longer than others. Other ethnic groups are more dispersed and change their behaviours rapidly. Similarity between specific ethnic groups also means that some ethnic groups are found close to each other while others are more segregated.

This study on the ethnic factor in Canadian cities has a number of objectives. Specifically, they are: 1) To examine the

ethnic composition of Canadian cities and identify its links with immigration patterns; 2) To measure the extent of ethnic concentrations in the various metropolitan areas; 3) To investigate the extent of residential segregation among the various ethnic groups; 4) To examine the relative socio-economic position of ethnic groups; and 5) though projections are hazardous, to attempt to predict the ethnic mix of the Canadian metropolitan areas by 2001 subject to a set of assumptions.

The main data sources are the 1961, 1971, 1981 and 1986 Canadian Censuses of Population. As this study deals extensively with ethnicity, a comment on the problems of measurement and comparability is warranted. In the 1961 and 1971 censuses, only single origins were allowed whereas the 1981 and 1986 censuses allowed multiple origins. There were also slight changes in the wording of the questions. One should be aware of the limitations of these changes for trend analysis and realize that the 1981 and 1986 census data are not directly comparable. We have dared to make some temporal comparisons in spite of the above limitations by making realistic adjustments and grouping of ethnic categories to increase the validity of comparisons.

Changing Ethnic Composition of (CMAs): 1961-1986

An investigation of the ethnic composition of the 25 Census Metropolitan Areas shows that their ethnic distributions are very different. The percentage of the population that belongs to the charter groups of British and French varies greatly. In 1986, the proportion British ranged from 93.0 percent in St. John's, Newfoundland, 45.2 percent in Toronto, 38.0 percent in Winnipeg and 10.8 percent in Montreal to 2.9 percent in Chicoutimi. In the case of French, the CMAs were mostly in two extremes, those in Quebec with 90 or more percent French, except Montreal with 66.1 percent, and those outside with less than 10 percent French.

One can identify distinct trends in the proportion of British and French during 1961-1986. In the CMAs in the Atlantic provinces and Quebec, excluding Montreal, there is not a significant change in the population that is British or French. In Montreal, the proportion British has decreased from 17.9 percent in 1961 to 10.8 percent in 1986. Most CMAs in the rest of Canada show declines in the proportion British to varying degrees. The maximum decline is in Toronto, where the proportion British has declined from 60.7 percent in 1961 to 45.4 percent in 1986. In comparison to the British, the changes in the French population during the 25 year period are less significant. Many CMAs are gaining in population of other ethnic groups than British or French. Because of lack of comparability, we examine only the 1986 ethnic distribution. Taking all the 25 CMAs together, 31.2 percent of their population gave British as a single response (including British only multiple responses) and 22.4 percent French, with 4.2 percent giving both. Those who gave other than British or French single responses were 27.0 percent. Other ethnic origin single responses formed the biggest category in Toronto, 41.6 percent, even more than the British at 38.5, giving the city a very cosmopolitan character. "Other ethnic group" was also the largest category in many CMAs in the West, such as Winnipeg, Regina, Saskatoon and Edmonton.

An index of ethnic diversity was constructed for each CMA with a range of 0 to 1 going from low to high diversity.

Metropolitan areas in the West are more ethnically diverse, the indices in 1986 being 0.83 for Winnipeg, 0.80 for Edmonton and 0.73 for Calgary. Outside the Prairies, Toronto has a high index of 0.79. The three CMAs in Quebec excluding Montreal are ethnically very homogeneous, with indices less than 0.09. The index was also very low in St John's, Newfoundland, 0.08 given the 93.0 percent British population.

Temporal comparisons show that there is a trend in increasing ethnic diversity in most metropolitan areas except in those in the Atlantic provinces and Quebec. Toronto, the premier city in attracting immigrants in the last two decades, exhibits the maximum increase in diversity. The index of ethnic diversity for Toronto increased from 0.61 in 1961 to 0.72 in 1981 and 0.79 in 1986. In Vancouver also, the change was dramatic, an increase from 0.60 in 1961 to 0.74 in 1986.

Ethnic diversity at the census tract level in the metropolitan areas show that diversity is mostly reflected at the small area level as well. One should be aware that it is possible for a metropolitan area to be diverse ethnically yet at the small area level be ethnically homogeneous. This will occur if there is extreme segregation. If segregation is low one would expect the metropolitan ethnic diversity to be reflected at the small area level as well. In the western cities of Regina, Saskatoon, Calgary and Edmonton, ethnic diversity was uniformly high in all the neighbourhoods. There are no census tracts in these cities where the ethnic diversity index falls below 0.500. In contrast Montreal shows high variation among the census tracts in the different parts of the city. Other cities showing moderately high variation are Ottawa-Hull, Saint John, Toronto and London.

Foreign Born Population in the CMAs

While in Canada as a whole the percent of the population foreign born in 1986 was 15.6, the proportion in the 25 CMAs was higher at 21.2 percent. The foreign born population varies significantly among the metropolitan areas depending on regional location and size of place: 3.2 percent in St John's, Newfoundland, 15.9 percent in Montreal, 36.3 percent in Toronto and 28.8 percent in Vancouver. In most areas, about a fourth of the foreign born are made up of immigrants who came to Canada in the decade 1976-1986.

The selective attraction of the various CMAs to immigrants is apparent. Thus, Toronto, which has 22.67 percent of the

total metropolitan population, has 38.78 percent of the total metropolitan foreign born population. The only other cities which had more than their proportional share were Hamilton and Vancouver. For almost thirty years, Toronto has attracted almost twice its share of immigrants. Vancouver is the only metropolitan area that has attracted more than its share of immigrants in all the periods of immigration. Among recent immigrants, those who came to Canada in 1976-86, the four cities which attracted more than their share were Toronto, Calgary, Edmonton and Vancouver.

What has been important in the immigration patterns is that, not only have they not been similar over time or in places of settlement, but also they have been very different in ethnic origin. Among those who gave single origin responses, except for Western and Northern European groups, Jewish and Ukrainian, all the other ethnic groups had populations that were more than half foreign born. Three fourths of the visible minority population was foreign born. Further, as a group, more than 90 percent of the foreign born among the visible minorities in the metropolitan areas came to Canada after 1966.

The other notable changes are the substantial decline in the immigration of Italians and Greeks. Only 3.7 percent of the Italian foreign born came in 1976-86 compared to 45.3 percent in 1956-65 and 24.0 percent in 1966-75. In the case of Greeks the decline was from 43.5 percent in 1966-75 to 8.8 percent in 1976-86.

During 1976-86, visible minorities in the CMAs formed about half of all immigrants. They were also more likely to go to the larger metropolitan areas. Almost half the South Asians, 47.7 percent, were to be found in Toronto, their second preference being Vancouver with 17.5 percent. For the recent Chinese immigrants, Toronto was first choice at 41.5 percent, and Vancouver second with 24.6 percent. The Black/African/Caribbean group was even more selective. 80.2 percent of all immigrants during this period residing in the 25

CMAs were in two cities, Toronto and Montreal, 51.9 and 28.3 percent respectively. The higher proportion going to Montreal in comparison with other visible minority groups has clearly to do with the fact that a greater portion of them are from French speaking countries in the Caribbean or Africa. Only a very small proportion went to Vancouver, 2.1 percent.

The three largest cities in Canada account for about two thirds of all metropolitan immigrants coming to Canada in 1976-86. Five other cities next in size attract more than half of the rest of the immigrants. When we consider all the immigrants in 1976-86, about 90 percent go to the 8 largest CMAs. In the case of most visible minority groups, these 8 cities account for about 95 percent of immigrants found in the 25 CMAs.

Ethnic Concentration Within Metropolitan Areas

It is possible for a city to have ethnic diversity without having distinct ethnic neighbourhoods. This would indicate that the ethnic groups are not segregated residentially. On the other hand, if an ethnic group is heavily concentrated in a few areas, it is a measure of the extent to which that group is segregated, though it need not necessarily mean that they are discriminated against. A summary measure of concentration based on small area statistics is the Gini Index. The range of the index is 0 to 1, indicating no concentration or complete concentration.

The 1981 census tract data show that, on the whole, the British show the least concentration. Next to the British, the Germans have the lowest concentrations overall. The French also have low concentrations outside of Quebec. The Dutch and Scandinavians come next, and then the Polish and the Ukrainians. The most concentrated ethnic groups are the Italians and the Native populations. For Italians, the index ranges from a high of 0.689 in Montreal to 0.320 in Kitchener-Waterloo. Italians, who are the second largest ethnic group in Toronto, forming 10 percent of the city's

population, were also very concentrated in that city with an index of 0.627. The indices for Native populations were uniformly high in all the metropolitan areas, ranging from 0.453 in Edmonton to 0.652 in Windsor. Unfortunately, data for many other ethnic groups such as the visible minorities were not available in the 1981 census tapes.

Important differences exist among the metropolitan areas in ethnic concentrations. Gini indices are high for all the ethnic groups in Montreal and low for all the groups in Calgary.

Though Toronto has the largest populations in most ethnic categories, the concentrations are moderate for most groups. There does not seem to be a threshold size for ethnic concentrations.

Ethnic Residential Segregation

Distinct patterns in residential segregation of ethnic groups compared to each other can be expected in the various metropolitan areas for a number of reasons, and may occur even if the ethnic groups are not concentrated in particular neighbourhoods. Their population size, recency of immigration, social distance and social class can all affect residential location. Residential segregation is investigated using 1981 census data at the small area level. The fourteen largest metropolitan areas with population over 200,000, with at least 500 in every ethnic group and with a minimum of 50 census tracts were selected. They were Halifax, Montreal, Ottawa-Hull, Toronto, Hamilton, St. Catharines-Niagara, Kitchener-Waterloo, London, Windsor, Winnipeg, Calgary, Edmonton, Vancouver, and Victoria.

The measure of ethnic residential segregation employed is the "index of dissimilarity". This index is the sum of either the positive or negative differences between the proportional distributions of two ethnic populations. The index ranges from zero to unity, indicating complete similarity or dissimilarity in the residential distributions of the two ethnic populations. Segregation is highest in Montreal, with the value for the

mean index being 0.574. Next to Montreal, Toronto had the highest index at 0.433. In general the segregation indices seem to be somewhat lower in the western metropolitan areas. In Calgary the mean index is only 0.253. There seems to be a moderate association between population size and level of segregation, the rank correlation coefficient between size and segregation index being 0.41. It may well be that larger populations provide the threshold necessary for ethnic concentrations. It is also possible that higher visibility through numbers may promote greater discrimination against certain ethnic groups in the larger cities. Ethnic diversity is only weakly correlated with the segregation index and not in the predicted direction, the rank correlation between ethnic diversity and mean segregation index being only -0.16.

Ethnically diverse cities do not tell us much about the residential segregation prevalent in those cities. Montreal with a low ethnic diversity of 0.49 has a high mean segregation index of 0.574. Toronto with a high ethnic diversity index of 0.79 has also a high segregation index of 0.433. On the other hand, Edmonton with a high ethnic diversity index of 0.80 has a low segregation index of 0.299 and Victoria with a low ethnic diversity index of 0.53 has also a low segregation index of 0.282.

Mean indices of ethnic group segregation from every other ethnic group averaged over the fourteen metropolitan areas show that the British have the lowest mean at 0.293 followed by Germans at 0.314. At the other extreme, Natives have the highest mean segregation index of 0.491 with the Italians being the second highest at 0.439. The other European groups, as well as the French charter group, fall in between. It is unfortunate that the numbers of the various ethnic groups from Asia, Africa and Latin America are not available in the small area census tapes, nor of certain European groups such as Portuguese or Greek, as no doubt many of these ethnic groups must have very different residential patterns.

Substantial differences in segregation exist among the metropolitan areas. The British were most segregated in Montreal (0.480) and least segregated in Calgary (0.195). French segregation indices vary a great deal, from 0.603 in Ottawa-Hull to 0.231 in Calgary. However, outside of Montreal, Ottawa-Hull and Winnipeg, the French are not highly segregated. Apart from the Italians and Natives, the intermetropolitan differences for the various ethnic groups follow more or less the same pattern. In most of the areas, the Natives and Italians had the highest segregation indices and the British and Germans the lowest. This indicates that there is not a significant interaction between metropolitan area and ethnicity, a finding that is consistent with the earlier analysis of 1971 data (Balakrishnan, 1982). There are also other ethnic groups on whom we do not have information here who are even more segregated than the Italians, such as the Portuguese, Greek and Jewish (see Balakrishnan and Kralt, 1987).

Among the many factors that cause segregation among the ethnic groups is social distance. Ethnic groups which are culturally similar to each other are less likely to be segregated among themselves compared to other ethnic groups. Though we do not have a strict social distance scale, we venture, based on the earlier works on social distance (Driedger and Peters, 1977; Pineo, 1977), to classify our ethnic groups in order of increasing social distance from the British as follows: British; Northern and Western Europe (French, German, Dutch, Scandinavian); Eastern Europe (Polish, Ukrainian); Southern Europe (Italian); and Native. "Other single" comprises all other single origins that cannot be placed on the social distance scale.

Mean segregation indices between ethnic groups, when averaged over the fourteen metropolitan areas, support the social distance hypothesis. The mean segregation index between British and German is only 0.175. The indices of British with Dutch, Scandinavian and French are about the same, around 0.255, and the index increases to 0.294

for Polish. The index of British with Italian is much higher at 0.399 and even higher with Native at 0.471. The pattern is consistent for the other ethnic groups as well, except the Natives.

The Natives have the highest indices of dissimilarity compared to every other ethnic group, the values being not too different, indicating that, at least for the ethnic groups considered here, the social distance of Natives is uniformly high from all of them, ranging from 0.448 to 0.538. Had there been other ethnic categories low in social prestige such as Asiatic or Black, it is possible that indices of dissimilarity between Natives and these groups may have been lower. Unfortunately, the published data do not allow these investigations.

Relative Socio-Economic Positions of Ethnic Groups

As we have seen, the changing ethnic composition of Canada's population is to a large extent due to recent immigration patterns. Immigrants are selective in various ways. Their social and cultural background and recency of immigration may mean that their relative economic position vis a vis native Canadians is not the same.

One of the most important factors affecting relative economic position in Canadian society is educational attainment. Are there substantial differences in educational attainment by ethnic origin? In 1986, the proportion of the population 15 years and over with at least some university education residing in metropolitan areas shows a great deal of variation by ethnic origin. Among the charter groups, the percent for British was 19.7 and for French 17.4. The corresponding figures vary from a low of 5.7 percent for the Portuguese to a high of 44.4 percent for the Jews. The third world ethnic groups, who immigrated predominantly in the last decade, had higher educational attainment. Among the Asian groups, the proportion with some university education amounted to 34.6 percent for South Asians, 30.4 percent for Chinese, and 53.8 percent for the Filipinos. The percentage of the Black/Afri-

can/Caribbean group with some university education was 18.0, not too different from the British and French origins.

Mean incomes vary substantially by ethnic origin. The overall mean income of males 15 and over in 1985 was \$25,112. The British had a slightly higher mean income at \$26,842, and the French slightly lower at \$23,195. Many recent immigrants had much lower incomes: Greeks \$19,402, Portuguese and Black/African/Caribbean \$18,367. The differences in mean income among ethnic groups persist even when educational level is controlled. Of course, many other factors besides educational attainment influence income, such as age, occupation, recency of immigration, and knowledge of English or French. An analysis of the data from the two percent sample tapes of the 1981 census shows that, even when all these factors are controlled, third world ethnic groups earn comparatively lower incomes.

Ethnic Population Projections for the Census Metropolitan Areas: 1986-2001

Population projections were made for the various ethnic groups subject to the usual cautions about making them, especially for small groups experiencing substantial international migrations. These metropolitan projections are derived from the basic projections made by Statistics Canada.

Under projection 1, which assumes that fertility in Canada will decline from 1.67 children per woman to 1.20 by 2011, and that international migration will remain more or less at present levels, the metropolitan population of Canada will increase from

15.00 million in 1986 to 17.54 million by 2001. Under projection 2, which assumes that fertility will remain constant at 1.70 births per woman till 2011, and that international migration will also stay at more or less present levels, the metropolitan population will increase to 17.81 million. The proportion British under projection 2 will decline from

40.13 percent to 38.85 percent. The proportion of visible minorities will increase from 8.19 percent in 1986 to 10.69 percent of the metropolitan population by 2001. In Toronto, under projection 2, the proportion British will decrease from 47.60 percent in 1986 to 44.80 in 2001. The visible minority population in Metropolitan Toronto can be expected to increase from 13.96 percent in 1986 to 17.71 percent in 2001.

The study shows that recent immigration has had a considerable impact on the changing ethnic mix in Canadian cities. But it also abundantly reveals that the metropolitan areas are very different in the number and type of immigrants that they attract and in the magnitude of ethnic concentrations and segregation found within them.

References

- Balakrishnan, T.R., "Changing patterns of ethnic residential segregation in the metropolitan areas of Canada", *Canadian Review of Sociology and Anthropology*, vol 19, 1982, pp 92-110.
- Balakrishnan, T.R., and John Kralt, "Segregation of Visible Minorities in Montreal, Toronto and Vancouver", in Leo Driedger (ed), *Ethnic Canada*, Copp Clark Pitman, 1987, pp.138-157.
- Darroach, G., and N.G. Marston, "The social class basis of ethnic residential segregation: the Canadian case", *American Journal of Sociology*, vol 77, 1971, pp.491-510.
- Driedger, Leo, and Jacob Peters, "Identity and social distance: towards understanding Simmel's 'The Stranger'", *Canadian Review of Sociology and Anthropology*, vol 14, 1977, pp.158-173.
- Pineo, Peter C., "The social standing of ethnic and racial groupings", *Canadian Review of Sociology and Anthropology*, vol. 14, 1977, pp.147-57.
- * The Role of Immigration in Changing Socio-Economic Structures**
- Roderic Beaujot, J. Peter Rappak,
Population Studies Centre, University of Western Ontario
- Compared to most other countries, Canada is unique in the role that immigration has played in its population growth. This has been highlighted in recent discussions of immigration levels, where immigration has even been thought of as a means of compensating for low fertility. Naturally, immigrants are not just abstract demographic entities, they bring with them various demographic (age, sex, marital status, family size), economic (education, occupation, labour force involvement, income) and cultural (language, ethnicity, religion) characteristics. More so than free trade or the free movement of capital, immigration has the potential to change the very nature of the receiving society. It therefore makes sense that there is a certain resistance on the part of the receiving society, as individuals and organized groups resist the change to a "different society". Over time, immigrants assimilate in varying degrees to the underlying society, and those who assimilate the least are probably the most likely to leave again. However, in contrast to fertility, immigration has a higher potential to change the very nature of the underlying society.
- In this light, the overall objective of this project is to see how immigration changes Canada's socio-demographic composition, especially by considering how immigrants differ from the Canadian-born and how these differences change over time. The impact of immigration, in terms of the extent to which immigrants change the society, is a very large question, which has been the subject of various previous studies. We have attempted here to integrate these studies and to extend the analysis to the 1986 census. We have focused on three sets of structures: demographic (size, growth, age distribution, geographic distribution), economic (education, labour force participation, income) and cultural (language, visible minorities).

The report concludes with policy reflections regarding immigration and its accommodation in Canadian society.

Demographic Impact of Immigration

The demographic impact of immigration clearly depends on the proportion of immigrants who stay in Canada. We have documented that there is a strong relationship between levels of immigration and emigration, due in part to the subsequent departure of immigrants. Comparable tables were derived from immigration data and from the censuses (1971, 1981, 1986) by characteristics that are normally stable for a given person: place of birth, sex, date of birth and period of immigration. After estimating deaths and census under-enumeration, we have determined that approximately 30 percent of the 1951-70 immigration cohorts and 20 percent of the 1971-80 cohorts had left by 1986. Departures are somewhat less likely for immigrants from Third World countries, thus we project that some 15 to 25 percent of immigrants can be expected to leave within 10 years. Therefore, of 100,000 immigrants, some 75,000 to 85,000 would still be in Canada after about 10 years. In effect, some 60 percent of emigration consists of the subsequent departure of immigrants themselves. Adding departures among the Canadian-born, an immigration figure of 100,000 should be linked to a net migration of some 55,000 to 70,000 people.

Natural increase has always been the prime factor in population growth. However, net immigration has accounted for 20.9 percent of population growth since the turn of the century. In the period 1961-87, population growth has been declining due to both lower fertility and lower immigration compared to the base population. Fertility has had the largest impact on declining population growth. Measured as annual arrivals per mid-decade population, immigration has also declined from 0.72 immigrants per 100 population in 1961-71 to 0.42 in 1981-87. With lower fertility, the proportion of population growth

that is due to net immigration has increased from 21.7 percent in 1961-71 to 27.0 percent in 1981-87.

Using Statistics Canada's immigration assumptions of 150,000 (high) and 100,000 (low) immigrants per year, and 50,000 emigrants per year, the contribution of net immigration to total population growth over the period 1981-2001 ranges from 19.4 percent to 24.0 percent under the low immigration assumptions and from 29.0 to 42.3 percent under the high immigration assumptions. Over the period 2001-2026, the contribution of net international migration to total population growth becomes 100 percent or higher under the fertility assumption of 1.7 births per woman. Under the assumption of 2.2 births per woman, net immigration accounts for 37.1 to 56.9 percent of total population growth.

In effect, if fertility remains around 1.7 births per woman, immigration will constitute the only source of population growth after 2015. Each additional 50,000 in net annual immigration delays population decline by some eight years.

Regarding the impact of immigration on the total size of the population, compared to a zero net migration scenario, the population in 2026 will be 18 percent higher under the high immigration assumption and 9 percent higher under the low immigration assumption. These are sizeable differences, amounting to 5,000,000 and 2,500,000 people respectively.

Immigration has a lesser impact on the age structure, partly because immigrants arrive with median ages around 25 to 28 years, while the median age of the receiving population reached 31.6 years in 1986. If arriving immigrants have an age distribution comparable to that of past experience, immigration of the levels projected by Statistics Canada will reduce the average age of the 2026 population by one or two years, and will reduce the proportion aged 65 and over by one or two percentage points. In comparison, higher fertility (2.2 births per woman) reduces the average age in

2026 by five to six years and the proportion aged 65 and over by two to four percentage points.

The foreign-born have comprised 15 to 16 percent of the total population of Canada over the period 1951-86. The long term impact of the immigration, fertility and mortality levels of the 1981-85 period would produce a population that is about 20 percent foreign-born. An immigration level of 275,000 arrivals per year produces, in the long term, a population that is about 30 percent foreign-born with current fertility levels (Ryder 1985:6).

Immigration, and to a lesser extent the subsequent internal migration of the foreign-born, has an important impact on the geographic distribution of Canada's population. This can be observed from the fact that less than 5 percent of the populations of the Atlantic Provinces are foreign-born compared to 8 percent for Quebec, 22 percent for British Columbia and 23 percent for Ontario. The proportion foreign-born in the Prairie Provinces ranges from 7 percent for Saskatchewan to 16 percent for Alberta. In effect, the immigration of the post-war period has largely been to the advantage of the relative size of the populations of Ontario and British Columbia, and to the disadvantage of the Atlantic Provinces and Quebec. For instance, among the Canadian-born, Ontario is only 17 percent larger than Quebec, but adding in the foreign-born makes Ontario 39 percent larger. The foreign-born population of Ontario was four times as large as that of Quebec in 1986. Given that immigrants are likely to settle mostly in metropolitan areas, and to follow the "pathways" established by earlier cohorts, immigration will probably continue to accentuate the inequalities in Canada's regional population distribution. For the most part, immigration cannot be seen as a means of demographic redistribution to areas of lower population concentration.

Immigration and Socio-Economic Characteristics of the Population

While there is much diversity among immigrants, as there is in the Canadian-born population, immigration has tended to increase the socio-economic profile of the Canadian population. This is especially visible with regard to education, where immigrants are on average selected for higher levels of education and skills. The relative advantage of immigrants compared to the Canadian-born was highest in the immediate post-war period, when Canadians were suffering from a poorly developed educational system. For instance, in the 1971 census, 23.1 percent of the 1961-69 immigrant cohort aged 25-64 had some university education, compared to 10.5 percent of the Canadian-born population. As of the 1986 census, 25.3 percent of the foreign-born had some university education compared to 20.4 percent of the Canadian-born, at ages 25-64.

The educational advantages of immigrants are stronger for men. Since women are more likely to arrive as dependents, they are less "selected" on educational characteristics. In effect, women immigrants have higher proportions than the Canadian-born at both high (some university) and low (primary school or less) levels of education.

With the increased educational profile of the Canadian-born population and the greater importance of the family and refugee classes in immigration, the more recent immigrants do not have such an advantage with regard to education. In the 1980-84 cohort, 31.7 percent of immigrants at ages 25-64 have some university education compared to 20.4 percent of the Canadian-born. In addition, 17.0 percent of the 1980-84 immigrants but 14.8 percent of the Canadian-born had less than nine years of education, at ages 25-64.

In the comparisons of socio-economic status, an additional breakdown is provided based on the place of birth of immigrants. The category of traditional immigrant group is used for persons born in Europe and the United States,

while the remainder are called the new immigrant group. As of the survivors in the 1986 census, the new immigrants amounted to 5.0 percent of the pre-1961 arrivals, compared to 50.3 percent of the 1970-74 immigrant cohort and 65.1 percent of the 1980-86 arrivals.

For cohorts preceding 1975, the new immigrant group has more education than the traditional immigrant group. In the 1975-79 arrivals the new immigrant group tends to have higher proportions at both high and low levels of education, and for the 1980-86 arrivals the new immigrants have less education.

Labour force participation has mostly been measured in terms of the proportions working full-time for 40 or more weeks within given age groups. Immigrant cohorts arriving before 1980 are more likely to be working full-time, especially in the case of women, than their Canadian-born counterparts. The 1980-84 cohort is a major exception to the general pattern; this last immigrant cohort has lower proportions working full-time than the Canadian-born of equivalent ages. New immigrant men are less likely to be working full-time than the traditional immigrant group, especially for the 1975-84 arrivals, but for women the new immigrant group is more likely to be working full-time.

In contrast to their advantages on education and labour force status, it was found that immigrant men arriving since 1970 and women arriving since 1975 tend to have lower average total incomes than the Canadian-born of equivalent ages. On average employment income for persons working full-time, it is men arriving since 1975 and women arriving since 1970 who have lower average incomes. Earlier immigrants tend to have higher incomes than the Canadian-born of the same age and sex groups. As we have seen, the most recent cohort, that is 1980-84, is also less selective on education and labour force status. However, the 1970-79 cohort appears not to be receiving the economic reward that might follow from their superior levels of education and labour force participation.

As a total group, immigrants have average levels of income that compare favourably to the Canadian-born. Among men, immigrants had average total incomes that were 7.7 percent above the Canadian-born average in 1970, 12.0 percent above in 1980 and 11.8 percent above in 1985. For women, the average figures are basically identical in 1970, while immigrants are 6.7 percent above the Canadian-born in 1981 and 5.6 percent above in 1985. These results imply that immigrants increase the average total income in Canada.

Restricting the comparison to persons working full-time for 40 or more weeks in the year, average employment incomes were 6.2 percent above the Canadian-born in 1970, 5.5 percent above in 1980 and 1985. For women, immigrants were 0.8 percent below the Canadian-born in 1970, 1.1 below in 1980 and 1.4 percent below in 1985. These figures are very stable, indicating a five percent advantage for immigrant men and a one percent disadvantage for women. Overall, these differences are small, especially in comparison to the difference between men and women in employment income for persons working full-time. For instance, among the Canadian-born, these differences amount to a 41 percent, 36 and 35 percent disadvantage for women in 1970, 1980 and 1985 respectively.

While these overall comparisons are valuable, it is also useful to make comparisons after standardizing for age and education. These were done using the total population of Canada, by age and education, as the standard population for each sex and each census year. On average total income, immigrant men are now 2.0 percent above the Canadian-born in 1970, 1.1 percent below in 1980 and 2.6 percent below in 1985. For women, the comparable figures are 2.2 percent above in 1970, 1.7 percent above in 1980 and the average figures are identical in 1985. Thus removing their advantages in terms of age and educational profile, immigrants have a slight income disadvantage compared to the Canadian-born. The more recently arrived immigrants are at a greater disadvan-

tage. The 1975-79 cohort had standardized average total incomes in 1985 that were 16.9 percent below the Canadian-born for men and 12.6 percent below for women. The 1980-84 cohort was 29.6 and 24.8 percent below for men and women respectively.

The standardized comparisons on average employment income, for persons working full-time, show that immigrant men are 0.1 percent above the Canadian-born in 1970, 3.3 percent below in 1980 and 4.0 percent below in 1985. Women are 2.0 percent below in 1970, 4.6 percent below in 1980 and 4.4 percent below in 1985. Once again, the most recent arrivals have a greater disadvantage, amounting to 25.0 percent for men and 25.8 percent for women in the 1980-84 cohort.

Extensive comparisons were done between the traditional and new immigrant groups. On average total income by age, the new immigrant group is typically at an advantage for men who arrived before 1970, and for women who arrived before 1975. On average employment income, it is in the male cohorts before 1975 and the female cohorts before 1970 that the new immigrant group is most likely to be at an advantage. However, adjusting for age and education, the new immigrant group arriving since 1946 is uniformly at a disadvantage for men on both income measures. For women, the new immigrant group is at an advantage among the 1946-74 arrivals on average standardized total income, and among the 1946-69 arrivals on standardized employment income. In subsequent cohorts of women the new immigrant group is at a disadvantage compared to the traditional immigrant group. The differences tend to increase for the more recent cohorts. In the 1975-79 cohort, the new immigrant group shows an average standardized total income that is 23.4 percent below the traditional immigrant group for men and 4.9 percent below for women; the equivalent figures for employment income are 21.2 for men and 10.7 percent for women.

The measure of low income status largely confirms these results on average income: there is a greater proportion of low income status for immigrants than for the Canadian-born, both for unattached individuals and for economic families in the 1986 census. Also, the incidence of low income increases with recency of arrival, and the new immigrant group arriving since 1970 tends to be at a greater disadvantage.

The immigration monograph on the 1971 census had documented interesting progress among the immediate post-war immigrants (Richmond and Kalbach 1980:109-118). In particular, the 1946-60 immigrant cohort tended to be below the Canadian-born average total incomes by ages and sex in 1961. However, the immigrants made greater progress over the decade and the 1971 census showed that these 1946-60 arrivals had mostly surpassed the average incomes of their Canadian-born counterparts of the same age and sex groups. Comparing the censuses of 1971, 1981 and 1986, the present study finds few instances of this type of progress: among men who arrived in 1961-69, average total incomes are below the Canadian-born in 1971 but above in 1981 and 1986; women who arrived in 1970-74 are below the Canadian-born in 1981 but above in 1986. Otherwise, given immigrant cohorts tend to be either above or below the Canadian-born at each census. Typically, those who arrived before 1970 or 1975 are above the Canadian-born while subsequent cohorts are below the Canadian-born. The regression analyses that were done on the 1971 and 1981 censuses also confirm that recency of arrival has a more negative impact on incomes in 1980 than in 1970.

There are several possible reasons why the rate of economic adaptation (measured in terms of average differences with the Canadian-born) has become slower: the quality of immigrants may have declined (e.g., less knowledge of the official languages at arrival), the quality of the Canadian-born population may have increased (e.g., more development of education and training), economic structures may involve greater difficul-

ty in accommodating immigrants (e.g., greater importance of seniority in wage structures, greater weight of the service sector where familiarity with the society may be more important), and more discrimination (towards immigrants who are more different from the receiving population, making it harder for employers to accurately assess their qualifications). In other words, the economic adaptation of immigrants is dependent on their characteristics (selectivity, age, education, language, etc.) and the nature of the receiving society (levels of skills, needs for labour, extent of closure toward outsiders). The experience of a given cohort of immigrants will be largely a function of their quality and the economic situation at the time of their arrival. We have seen that the more recent cohorts are less selective, even in terms of education and labour force status. This in turn would be a function of the reduced relative size of the "independent class", and the greater importance of family and refugee classes in the more recent arrivals. Obviously, we should not expect that persons selected on the basis of family reunification and humanitarian concerns would necessarily achieve levels of economic performance comparable to that of the receiving society.

It should not be surprising to find that recently arrived immigrants suffer a disadvantage. Richmond (1988:62) concludes that "after age on arrival and education, length of residence ... is the single most important determinant of the degree and pattern of socio-cultural adaptation". We can expect the differences to become smaller over time, for instance the 1970-74 cohort has standardized average total incomes in 1985 that are only 10 percent below the Canadian-born for men and 2 percent below for women. Average incomes also do not measure the relative success of immigrants compared to what they would have been in their country of origin. Immigrants as a whole continue to make a positive contribution to average total incomes in Canada. Nonetheless, these results imply that the receiving society needs to pay continual attention to the opportunity profile of its newest arrivals

from abroad. Only if this profile is interpreted positively will immigration itself be seen positively both by immigrants and the receiving society.

Immigration and socio-cultural characteristics of the population

The socio-cultural impact of immigration has been analyzed in terms of the composition by language and ethnic groups. The focus has been on the official languages and visible minorities respectively.

Immigration has clearly benefited the English more than the French language in Canada. That is especially true outside of Quebec where there is less French among immigrants than in the Canadian-born population. The trends outside of Quebec are stable over time: the overwhelming majority of immigrants and their descendants come to associate with the English language as their main language, among the official languages. The proportion French outside of Quebec is also declining as a function of language transfers toward English. The proportion speaking French at home (or both English and French at home) has declined to 4.2 percent in the 1986 census, and can be expected to decline further. We have also used the concept of "predominant language", where people were first assigned to the English or French languages if they speak these languages at home, then persons speaking "other" languages at home were assigned to the English or French language if they speak "only" that language among the official languages. Using these definitions, the population outside of Quebec was 94.3 percent English, 3.1 percent French and 2.5 percent other in the 1986 census. The trends of the 1981-85 period would imply that the proportion English in the population outside of Quebec would increase to 97 percent in the long term.

The decline of the official language minority is also occurring in Quebec, but to a lesser extent. Until 1970, immigration to Quebec contributed more to the English than to the French language. Since 1970, immigrants are more likely to as-

sociate with the French language, especially the younger immigrants. However, persons of third languages are more likely to immigrate to Quebec and they are more likely to retain these languages in Quebec. In addition, language transfers between English and French continue to favour English. On the other hand, internal migration favours the French concentration in Quebec. Projecting the 1981-85 trends, in immigration by language, in internal migration by language and in language transfers, would imply that the long term stationary population of Quebec would be over 90 percent French as its predominant language. This implies a continued increase in the proportion French, which stood at 82.7 percent in the 1986 census (i.e., speaking French at home, or speaking an "other" language at home and knowing only French among the official languages). The proportions English and other were 12.1 and 5.2 percent respectively in 1986 and can be expected to decline.

In total, immigration plays an important role in Canada's changing distribution by official languages. While this distribution changes very slowly over time, immigration is the main element producing an increase in the relative size of the English language in Canada (Lachapelle 1988).

Immigration also plays the key role in terms of increasing the visible minority component of the Canadian population. Defining visible minorities as people who are neither Native Peoples nor of European ethnic origin, some 4.7 percent of the 1981 census population can be so classified. In this component, 15 percent were Canadian-born and 85 percent were born abroad. As another indicator, the population born in Asia, Latin America and Africa increased from 336,000 in 1971 to 1,152,000 in 1986, a total increase of 340 percent. In comparison, the population born in Europe declined by 7 percent in this period. Nonetheless, the population born in Asia, Latin America and Africa represents only 30 percent of the total foreign-born in 1986, or 4.6 percent of the total population.

Using the 1981-85 immigration trends, we find that the visible minority component of the Canadian population would increase from 4.7 percent in 1981 to a long term stationary figure of about 10 percent of the total Canadian population. This is probably a maximum figure since, especially over time, persons of various visible minorities become considerably less visible. With intermarriage being strong among Canada's various ethnic groups, 28 percent of the 1986 population's having more than one ethnicity, it can be argued that Canada is becoming a multi-ethnic society where "pluralism" rather than "visible minorities" is the more appropriate term.

Policy Discussion

Clearly, immigrant adaptation is a two-way process involving immigrants themselves as well as the receiving society. The main recommendations suggested by the authors are as follows:

- 1) Immigration should be thought of as a "demographic policy" and thus a longer term perspective should be used in setting immigration levels.
- 2) Alternative scenarios may be suggested with respect to immigration levels, but figures of 150,000 or 250,000 arrivals per year would provide useful bases for further discussion.
- 3) The "independent class" of immigrants needs to be strengthened if immigrants are to have a socio-economic profile comparable to that of the Canadian-born.
- 4) Knowledge of the official languages should be given greater priority in immigrant selection, and educational opportunities for learning the official languages should be increased for persons who are deficient in both languages at arrival.
- 5) Various actions are needed to increase the opportunity profile of recent immigrants (especially in the case of persons who lack basic educational skills, who lack literacy in the national

languages and whose credentials are poorly recognized), but strong versions of "affirmative action" type approaches might best be avoided.

6) Canadian society and its various institutions need to adapt to a greater variety in the population, encouraging a greater appreciation of other cultures and a greater sensitivity to problems of discrimination.

7) Immigrant selection should be based on an understanding that the persons selected recognize the need to adapt to Canadian society, including its various institutions and its official languages.

8) An institutional framework needs to be created to facilitate population policy discussions in Canada. Such a framework could take the form of a public policy institution, a Committee of Parliament, or a periodic demographic report to Parliament.

To conclude with Richmond (1988:106): "Completely unrestricted immigration would undoubtedly disrupt the economic and social systems of advanced countries, but moderate levels of immigration are well within the absorptive capacity of these countries". Immigration will always bring in something new, since part of the outside world is brought inside. This brings in more difference, along with possible resentment on the part of those who were there first, but it also brings the prospect of a creative interplay between the receiving society and the world beyond. Canada is one of the very few countries that has an array of policies and programs for the reception and integration of permanent immigrants. We need to ensure that this experiment remains successful.

References

Lachapelle, Réjean, 1988. "L'immigration et le caractère ethnolinguistique du Canada et du Québec". *Statistique Canada: Direction des études analytiques, Documents de Recherche* No.15.

Richmond, Anthony H., 1988. *Immigration and Ethnic Conflict*. New York: St. Martin's Press.

Richmond, Anthony H. and Warren Kalbach, 1980. *Factors in the Adjustment of Immigrants and Their Descendants*. Ottawa: Statistics Canada.

Ryder, Norman B., 1985. "A Population Policy for Canada". Manuscript. Toronto: University of Toronto.

Ethnic-Religious Identity, Acculturation, and Social and Economic Achievement of Canada's Post-War Minority Populations

Warren E. Kalbach, Madeline A. Richard, Population Research Laboratory, Department of Sociology, Erindale College, University of Toronto

Much of the research in Canada concerned with determining the significance of ethnic and cultural differences for socio-economic achievement and status mobility has relied heavily on the national censuses for data. Failure to attribute more causal significance to the ethnic factor may, in part, stem from the continuing ambiguity and confusion surrounding the basic concept of "ethnicity", as well as from the difficulty of employing this concept in research in a manner consistent with its theoretical conceptualization as a multidimensional phenomenon.

The availability of a Public Use Sample, for the first time in the 1971 Census, has made it relatively easy to incorporate multidimensional models into research on ethnic groups. In this analysis, a two-dimensional "ethnic origin religion" model of ethnic groups provides the basis for examining the relative viability of alternative mobility paths for acculturation and socio-economic status achievement for postwar minority populations. The mobility paths defined in this analysis for individuals of any ethnic origin are those provided by: (1) the ethnic churches; (2) the mainline Canadian churches; and (3) no preference for any religion or church.

Comparative analyses of the religious composition of the population by generation, for non-British European and non-European origins, relative to the culturally dominant British population, provides evidence of continuing acculturation across generations for those of German and Ukrainian origins in particular, and for non-British Europeans in general. Data from the 1971 Public Use Sample for those of Ukrainian origin show cross-generational increases in the proportions identifying with the mainline Canadian churches and those with no church preference (from 9.5 percent in the first generation to 31.3 percent in the third generation) and relative losses for the ethnic churches, i.e., the Ukrainian Catholic and Orthodox Churches (from 77.2 percent to 38.8 percent). Generational shifts in religious composition, to the disadvantage of ethnic churches, are suggestive of continuing acculturation. That the religious distributions of Ukrainians and Germans in the 1971 Public Use Sample show evidence of convergence with that of the culturally dominant British origin population suggests the occurrence of some degree of assimilation as well as socio-economic status mobility. However, the major concern of this research lies, not so much with the differential rates of denominational growth within ethnic origins, as with determining the relative efficacy of the several ethnoreligious mobility paths with respect to social and economic status attainment for some of Canada's post-war minority populations.

Using mother tongue retention as an index of acculturation and behavioural assimilation, the analysis of 1971 Census data shows that all three mobility paths are characterized by loss of ethnic-related behaviour and gains in educational attainment levels and socio-economic status. The advantages of non-ethnic church affiliation, especially with the mainline Canadian churches, i.e., Anglican or United, for social status mobility appear to be significant, but only for the first generation of foreign born. The analysis of data for the German and Ukrainian origin populations who reported no religious preferences suggests

that being unencumbered by commitments to a specific religion is perhaps even more advantageous with regard to socio-economic achievement in a secularizing society than affiliation with either an ethnic church or one of the mainline Protestant Canadian churches. Furthermore, those reporting no religion appear to be the only ones who retain their relatively favourable socio-economic status position into the second generation and beyond. Replication of the analysis with data from the 1981 Census produced similar findings; while the interdenominational and intergenerational differences, i.e., foreign vs native born only, within the German and Ukrainian populations were somewhat smaller than in 1971, they appear consistent with the basic hypothesis that preferences for one of the mainline Canadian churches, or for no church, tend to be associated with higher levels of socio-economic status, particularly in the case of the foreign born.

The same general conclusions are drawn from the 1981 data for the combined non-British origin minority groups. Evidence of acculturation, reflected in changing language patterns, is pervasive regardless of generation status or religious affiliation. Again, those on the mainline Canadian church path or those with no church are more likely to exhibit higher levels of educational attainment and socio-economic status. Differences between ethnoreligious subgroups within ethnic-origin categories tend to be most significant for the foreign born, with only those reporting no religion tending to maintain their relative advantage into second and subsequent generations of the native born.

Desegregating the non-British population into its major component groups, i.e., non-British Europeans and non-Europeans, reveals that the general patterns of ethnoreligious differentials in acculturation and socio-economic status achievement tend to persist for the smaller non-European population as well. Results of the analysis also show that, of the three mobility paths considered, the ethnic church shows the least acculturation with respect to language behaviour

while the mainline Canadian churches show the most. With respect to educational attainment, all of the foreign-born ethnoreligious groups of non-European origins exceeded levels reported by the combined native-born generations, with the Eastern non-Christians in the ethnic-church path being exceeded only by the Presbyterians in the mainline Canadian church group. For the native born, those with no religion significantly exceeded the other groups. With respect to indexes of socio-economic achievement, e.g., proportions with total family incomes of \$50,000 or more, mainline Canadian churches, as well as the more secular "no church" group, maintained their advantageous position, but only in the first generation of foreign born. Contrary to the past, higher educational and occupational statuses do not necessarily result in higher economic rewards. Variations from the classical assimilation model of intergenerational patterns of educational attainment and socio-economic status achievement appear to be a consequence of the more highly selective immigration policies of recent decades. It would seem that, since the introduction of the Immigration Regulations of 1967, the emphasis on high educational attainment and professional and other higher status occupations has been more stringently applied to the selection of non-European-origin immigrants, than to those with the more traditional European origins, as in the case of the more recent Portuguese immigrants.

The experiences of European-origin populations have some validity for understanding the ethnoreligious and generational differences in patterns of acculturation and socio-economic achievement observed for the four specific non-European-origin groups selected for closer examination. Special cross-tabulations of eight characteristics (2 language, 1 education, 2 occupation and 3 income) by religion and generation from the 1981 Census provided the data for analysis. The results of the analysis are generally consistent with the results for the combined non-European origin populations. Blacks/Caribbeans, Mid-Eastern Arab/Asians, Indo-Pakistanis

and Chinese origins with ethnic-church preferences tend to be less acculturated and exhibit lower levels of socio-economic achievement than their counterparts who express preferences for mainline Canadian churches, or have no church preference at all. Similar data for the Chinese show them to be atypical in one important respect relative to the other three non-European origin groups. They have significantly higher proportions claiming no religious preference. The characteristics of the individuals of Chinese origin with no religion, unlike their non-European counterparts, appear to be more like those of the ethnically connected Eastern non-Christians than of the more acculturated mainline Canadian Protestants. Of the other more viable pathways to acculturation and economic achievement, only the mainline Canadian church path appears to offer the potential for more rapid acculturation and socio-economic status mobility for those of Chinese origin. The reason for this is not entirely clear, but it suggests the possibility of important cultural differences in the interpretation and response to census questions on religion, especially with respect to the meaning of the "no religion" response.

An analysis of the more recently established Portuguese population counters the argument that acculturation and socio-economic status achievement patterns, based on the older established populations of European origins, may lack validity for more recent immigrant cohorts of European and non-European origins. Even though the Portuguese are the most culturally homogeneous population of those included in the analysis, i.e., 96 per cent Roman Catholic, those with mainline Canadian (Protestant) churches or no church preferences consistently show higher levels of acculturation and socio-economic status achievement. As a whole, the Portuguese have a very low demographic potential for socio-economic achievement, but the most ethnic of their ethnoreligious subgroups are clearly the most disadvantaged. Evidence of relatively rapid language acculturation, both within and between generations, may re-

flect a long-term advantage which they may enjoy as a result of sharing a more common cultural heritage with the older established European-origin populations. However, at the time of the 1981 census, they were less acculturated in terms of language behaviour and generally had lower levels of socio-economic status achievement than any of the four specific non-European-origin populations selected for analysis in this research. The relatively greater success of the non-European-origin groups may primarily reflect the more stringent screening they may have received with respect to evidence of actual language skills, educational qualifications and socio-economic status achievement before their arrival in Canada.

Most of the Germans, Ukrainians and many of the other European groups came to Canada as immigrants when general cultural similarities to the host society and potential for acculturation were the only criteria for admission. Since the more recent Portuguese immigrants, i.e., following 1961, have had relatively low educational levels and occupational statuses, they would appear to have been admitted primarily on the basis of the potential for acculturation implicit in their shared European cultural heritage rather than on the basis of specific language, education and occupational qualifications.

It is clear that selective admission, on the basis of attributes known to enhance chances of successful acculturation and economic achievement, has been at least partially effective for some of Canada's more recent visible minorities. It has been shown that there are obvious differences and inconsistencies between, as well as within, non-European ethnic origin groups in terms of religion that are associated with differences in potential for acculturation that effect social and status mobility. Several with significant numbers of eastern non-Christians have been shown to be relatively high or above average with respect to levels of educational attainment, but lower than expected in terms of economic rewards. The inconsistencies are, in fact, just another bit of evidence supporting the main

hypothesis of this research. Of the three mobility paths, two, i.e., the main Canadian churches and no church, are the most likely to show evidence of the most acculturation and socio-economic status achievement. The slowest route is the ethnic church. The existence of ethno-religious differentials within ethnic groups, and their implications for a multicultural society, should be given serious consideration by those concerned with formulating immigration policy and programmes designed to preserve cultural heritages consistent with national objectives. The existence of ethno-religious differentials within ethnic groups, and their implications for a multicultural society, should be given serious consideration by those concerned with formulating immigration policy and regulations consistent with national objectives.

Support Networks Surrounding Future Older People: What Support May We Expect from Families?

Nicole Marcil-Gratton, Jacques Légaré, Groupe de recherche sur la démographie québécoise, Département de démographie, Université de Montréal

The Question

The acceleration of population aging, in Canada as in other developed countries, will without any doubt create tremendous pressure in terms of sheer numbers on the numerous services that societies must provide for their elderly. The fear does exist that such pressure may extend to the family network, in particular to the children of the future old. Children have traditionally been expected to look after their aging parents, in terms of caring for their affective needs but also in providing for the help they require in their daily lives. The question is, have today's adults, by dramatically reducing their fertility, jeopardized the very source of support they will need in their old age? Should we expect that this relative lack of children will lead to a growing proportion of older people living alone and isolated, without the daily

support that can be more easily sought from a larger family, and draining always overburdened public services as their only alternative; or will we witness instead the transfer of the provision of such support from the children to a network of collaterals, whether they are siblings, other kin or friends?

Our hypothesis is that such a transfer will occur, and that the future old will live in old age as they lived when they were younger: their younger adult life was less centred on family life than that of their parents; in their old age, they will most probably compensate for the lack of intergenerational links by a greater use of their collaterals as a source of support. Suggestions of such a transfer may already be found by examining how today's elderly who have a demographic profile similar to that of a great many of the future elderly cope with the prospect of isolation. Using observations made of such present-day Canadian elderly, we tested the hypothesis that isolation in old age is not necessarily linked to previous fertility behaviour.

The Data Base

The data used come from Statistics Canada's General Social Survey of 1985 (GSS 1985), which was centred on the health status and practices of the Canadian population aged 15 and over. A special questionnaire was added to the GSS 1985 and administered only to those respondents aged 55 and over; it focused on different aspects of the social-support network available to and used by them. Of the 11,200 persons aged 15 and over who were interviewed in the GSS 1985, some 4,300 were over the age of 55, including 3,130 aged 65 and over. Although we included in our tables all of the population who answered the special questionnaire, our research was centred on the respondents aged 65 and over. These people were interviewed in person at home, whereas telephone interviews were used for the rest of the sample. The response rate for people aged 65 and over was 86.5%.

The answers to certain questions must be interpreted cautiously since the respondents giving them represent the elderly living in private households. We estimated that approximately 8% of the population over 65 years of age lives in institutions and thus was excluded from the GSS 1985. But that restraint did not greatly hinder our purpose. The propensity to live in institutions (hospitals, homes, chronic-care institutions) affects mainly the very old, the incapacitated and the very sick: our goal was to focus on the more autonomous elderly who, given relatively good health and adequate support, may remain out of institutions.

Our Approach

We tested the hypothesis that there is a transfer of support from offspring to collaterals, and that isolation in old age is not inevitably linked to previous fertility behaviour. Whether they have many, few or no children at all, the elderly should not necessarily be more isolated or have fewer activities or receive less help in doing different tasks; however, the source of support should vary according to their demographic profile: age, presence of a spouse, number of children.

We chose to concentrate on persons aged 65 and over as a single group in presenting our results. Let us keep in mind that dividing the elderly into smaller age groups brings to light a greater dependency of the very old and a greater tendency to isolation. But the influence of the level of fertility or the presence of a spouse responds to the same principles whether we are observing the younger old or the very old.

The presence of a spouse (within a legal marriage or not) is, of course, fundamental as a source of support in old age. In our presentation, we concentrated primarily on the sources of support used by the spouseless, but it is interesting to note that traces of the same transfer from offspring support to collaterals according to the number of children they have can be found among the old living within a couple.

Fertility was measured here in terms of surviving children rather than of children ever born. We consider that persons with three children or more are representative of today's elderly, while those with one or two offsprings characterize the future old. We placed those without any children in a special category, using them for illustrative purposes as being theoretically the most likely to be isolated; we do not believe that their childlessness will be typical of the elderly of tomorrow, or even of the day after tomorrow.

Finally, we wish to draw attention to the fact that the indicators of support measured here are by no means qualitative and do not take into account the underlying nature of relations between the people involved. We have remained strictly at a quantitative level, trying to give a rough estimate of the relative weight of support by offspring versus collaterals.

The Results

The GSS 1985 provided several indicators of the support that the elderly needed and received. It also investigated the different sources of support that were available to them, and whether they were actually used. The data collected thus permit us to evaluate the respective roles of children as providers of support versus a more lateral network of siblings, other kin and friends, or services, public or private.

We selected the following indicators of the actual use of these different sources of support, and we then confronted them with the demographic profile of the elderly in terms of age, presence of a spouse, and number of children.

Living Arrangements

The spouseless amount to 44% of all persons aged 65 or over living in private households. The analysis of their living arrangements gives us a first indication of the frequency of isolation and the respective roles of children and collaterals in fighting it:

1. The first major result: a great many of these elderly people do live alone whether they have many, few or no children at all (64%, 71%, 62%).

2. The proportion living alone does not vary significantly according to the presence or absence of children, nor according to whether there are many or few children for those who have children.

3. For the time being, 75% of the spouseless living alone are widowers. We could expect a change in that area: tomorrow's old will have known greater marital mobility and they should be less reluctant to engage in successive unions or to find another type of partnership so as not to remain alone after becoming widowed or divorced.

4. For those elderly without a spouse who do not live alone, there is clearly a trade off between collaterals and children in the organization of households depending on the number of children. When the elderly can count on many children (three or more), the probability of living with at least one of them is greater than that of living with a collateral, and it is also greater than when only one or two children are available. On the other hand, childless persons who must rely on siblings, kin or friends in order not to live alone do succeed in not living alone as often as people with children. Isolation in terms of living arrangements within private households is obviously linked to other factors than availability of offspring.

Daily Contacts With Offspring or Collaterals

The same trends can be observed when we take into consideration the proportions of the elderly who do or do not have daily contacts with people around them. The following interpretations were based on the analysis of detailed mentions of contact with different sources of support (children, siblings, other kin and friends) by the spouseless elderly.

1. There is no significant difference between the childless elderly and those with children in proportion of obviously more isolated persons, those without any daily contact with any one (34% and 29% respectively). Nor is the difference significant between persons with three or more children and those with one or two (25.5% and 32.8%).

2. Here again, there is an obvious trade off between each of our three categories, showing a greater role of children in providing support when there are many of them, and a shift to collateral resources when children are few or non-existent.

We do not pretend here to have measured in any way the exact nature and intensity of these contacts. We have intentionally combined all types of contact (living with, visiting, telephoning, writing) probed by the survey in order to underline the incidence of day-to-day isolation and to weigh the use of the different resources available to fight it. It appears to us that the sheer number of descendants is not very much of a determining factor in the success or failure of this effort.

Participation in Social Activities

The extent of participation in different social activities was found to be even less associated with the number of children the elderly had. Children, be they many or few, are not the main source of company for their parents in any social activity (going to a restaurant, a movie or a sports event, travelling, playing cards or bingo, etc.). Going out is clearly something the elderly do more often with a spouse, another kin or a friend.

Mentions of Aid Received

The survey probed rather in detail the different types of help that the elderly are apt to look for, such as help with yardwork, housework, meal preparation, grocery shopping, management of money and personal care. It also investigated where aid received came from, permitting us to distinguish the tapping

of public or private services from the use of the informal network of family and friends. The spouse, when present, remains the most frequently mentioned source of help in doing the day-to-day chores of the household, of course. Among the spouseless, those who relied exclusively on services, public or private, were relatively few; however, the childless were significantly more likely to do so (22.7%) than the elderly with children (11.4%). But the number of children was irrelevant; having few did not mean having a greater tendency to rely more on formal sources of support such as services. In fact, combining different sources of help was a frequent strategy, and the gradual shift from mentions of aid received from children to that of aid received from collaterals could again be observed.

The Very Isolated

Finally, we focused on two indicators of the phenomenon of extreme isolation among the spouseless elderly to determine whether the size of the immediately available family circle has anything to do with it: first, the proportion of the spouseless elderly who live alone and have not participated in any social activity at all within the last month; and, second, the proportion of the spouseless elderly who live alone and have no daily or weekly contact with any person or source of support, be they children, siblings, other kin or friends.

Here we have extended the notion of family size by adding the number of surviving sisters and brothers to the number of offspring. We thus classify as being typical of today's old those spouseless elderly whose family circle includes three or more children and two or more siblings; as being typical of tomorrow's old (in the year 2010) those spouseless elderly who have one or two children and two or more siblings; and, for a farther look into the future, as being typical of the elderly of 2030 those spouseless elderly who have one or two children and no siblings or one sibling. The proportions of very isolated people, using our two indicators, do not vary significantly according to these three fa-

mily profiles: between 12% and 16% do not participate in any social activity, and between 2% to 6% remain without any regular weekly contact with any one. In fact, it is only the total absence of children, whether or not there are any brothers or sisters present, that yields a significantly higher frequency of isolation among the spouseless: around 22% do not participate in any social activity and some 10% are without any weekly contact with any one.

Our two indicators, when calculated for the elderly population as a whole (including persons with spouses), show that they refer to a rather limited, if deprived, proportion of the elderly (6.9% socially inactive and 2.1% without weekly contacts for all those aged 65 and over). The isolation indicated concerns the childless significantly more often and, as far as social activities go, the very old. For our purpose, however, it is reassuring to note that a substantial increase in the number of the childless and spouseless elderly in Canada remains in the domain of the long term and the unlikely.

Conclusion

We are ready to grant that our indicators may be judged as crude, incomplete and totally inadequate to measure the complexity of the support networks available to the elderly, the response those networks offer to the real needs of the elderly, and the emotional value and changing character of family links compared to other sources of support. That was not our purpose nor within our field of competence. Our goal was to identify trends that shed light on whether the changing demographic behaviour of young Canadian adults today will compromise their position in old age. To have had few children and to have a very reduced immediate family around one will no doubt be frequent among tomorrow's elderly. We believe that our analysis shows that growing isolation for the future elderly should not be represented as an inevitable consequence and necessary evil of today's "irresponsible" fertility behaviour; our indicators show that children are not by any means the sole source of support for the elder-

ly. Children doubtless play an essential role for their parents, even more so if there are many to share the job. But even now, the spouseless elderly with few descendants seem to find elsewhere the support they need, without experiencing greater isolation and without putting a greater burden on formal services. We are prepared to wager that tomorrow's elderly will follow the same path and that, given good health and a chance to contribute to society, they will not have cause to regret not having brought into the world a larger family to provide for their care.

The Matrimonial and Parental History of the Generations That Will Have Reached the Threshold of Old Age by the Year 2000

Yves Péron, Jacques Légaré, Groupe de recherche sur la démographie québécoise, Département de démographie, Université de Montréal

Objectives and Methodology

It is a known fact that the process of demographic aging is well under way in Canada: in other words, the progressive transformation of the age structure of our population in favour of the elderly. Between the census of 1981 and that of 1986, the number of persons aged 65 and over increased from 2,400,000 to 2,700,000, an increase of 14%, compared with an overall population increase of only 4%. This means that the percentage of elderly in the overall population rose from 9.7% to 10.7% in five years. According to the demographic projections made by Statistics Canada (George and Perreault, 1985), the number of elderly persons will increase rapidly between now and the end of the century and will reach 3,900,000 by the year 2001, at which time, barring a new baby boom or a sharp rise in immigration in the coming years, elderly persons will constitute 14% of the Canadian population.

With this in view, the authors of this report have sought to describe what type of family persons reaching the threshold of old age by the end of the century

might have. Elderly persons may seek assistance from friends or neighbours if need be, but they are more likely to seek support within the family context, first from their spouse, and second from their children. With this in view, one important question was whether such extensive recourse to family support would be available given the matrimonial and parental life of the generations concerned.

The first objective was therefore to consider the conjugal lives of those who would reach age 65 within a period of 15 years from the last census or, more conveniently, from June 1, 1986. The table provides indications on the frequency of marriage, divorce and widowhood, the age at which such events take place and the time passed in each matrimonial state. In the analysis, special emphasis was placed on the matrimonial situation on the threshold of old age and on the development of this situation in the latter years of life.

The second objective was to prepare a table of parental life for the 15 generations concerned. The first stage would be to obtain the main indicators summarizing the number and spacing of children that they have. Secondly, the number of children when the mother or the father reaches 65 was described.

The study is essentially longitudinal in the sense that it seeks to describe the conjugal and parental life of actual generations, those in which persons reaching the age of 65 during the period June 1, 1986 to May 31, 2001, belong. For practical reasons, the generations in question have been divided into three five-year groups, according to when they were formed; thus the 1921-1926 group consists of persons born between June 1, 1921 and May 31, 1926; the 1926-1931 group, of persons born between June 1, 1926 and May 31, 1931, and the 1931-1936 group, of persons born between June 1, 1931 and May 31, 1936. Since these groups of generations is already well along in their life, the study consisted in large part of reconstructing their past.

However, in order to describe the matrimonial life of these generations properly, it was necessary to combine a projection of their behaviour in the coming years with the reconstruction of their past. It was assumed that the members of these generations would, at the end of their lives, experience the same mortality by matrimonial status and the same frequencies of change of matrimonial status as observed in 1981-1985 among persons aged 60 and up. This substitution of recent transversal data for the necessarily unavailable data on the years of old age should not lower the overall quality of the results too much.

The matrimonial and parental lives of three groups of generations were reconstructed using two different but compatible models. The matrimonial lives were reconstructed using the program of R. Schoen et al in their study of the matrimonial lives of American generations. With this program, it is possible to trace the development of the distribution by matrimonial status of the survivors of a generation, if the transfer rates from one matrimonial state to another and the mortality rates by matrimonial status are known. In order to reconstruct the parental life, it was necessary to develop a new program combining the changes in matrimonial status among women, their changes of parity and the probabilities of survival among their children. On various anniversaries, this second program gives the distribution of women by matrimonial status, the number of children already born and the number of surviving children.

Because of the under-estimation of the number of certain generations at the beginning of adulthood, the results obtained generally underestimate the percentage of single men and women and the percentage of infertile women.

The Results

From the study of matrimonial life, it is quite clear that the men of the 1921-1936 generations will differ from women in their experience of life in old age. On the

threshold of old age, the vast majority of men (84% or more) will still be married, while this will be the case with fewer than 70% of women; on the other hand, 20% of women will be widows, while only 5% of men will be widowers. Ten years later there will be as many widows as married women, with 44% of the total number being survivors, while 77 to 81% of the men still living will still be married. At the time of their death, a majority of elderly men (over 60%) will still be married, as opposed to fewer than 20% of the women. Reciprocally, so to speak, nearly 70% of the women will die in widowhood, as opposed to fewer than 30% of the men. Thus the painful experience of widowhood at life's end and the loneliness that accompanies it will have to be confronted far more frequently among women than among men.

From the study on parental life, it is quite clear that the members of the 1921-1936 generations will in many cases have children that can assist them in their old age, more than three-quarters of the non-single women will have at least two children still living, and more than half will have three or more. The percentage of those without any surviving children will be 9.7 in the oldest generations, and only 7.3 in the most recent. The situation of men should not differ greatly from that of women, since, even including single men, more than 70% have been fathers at least twice, and half have been fathers three times or more. The following generations will certainly be less advantaged from this viewpoint.

Linguistic Aspects of Demographic Development

*Gilles Grenier, Réjean Lachapelle,
University of Ottawa*

National Trends

While at the time of Confederation, Canada was bicultural, during the 20th century it has gradually become a multicultural society. According to the 1986 census, almost 40% of Canadians indica-

ted that their culture or ancestry was other than totally British or French. However, this cultural diversification has not markedly changed the linguistic duality of the country. Scarcely 7% of the population mostly speak a language other than English or French in the home. This proportion did not change between 1971 and 1986. In Canada, languages other than the two official ones are not spoken any more than languages other than English are spoken in the United States or Australia.

From 1850 to 1950, Francophones maintained their relative position at approximately 30%. Their high fertility compensated for the effects of immigration and assimilation that benefited the Anglophone population. This long period of equilibrium ended at the close of World War II. Anglophones benefited more from the baby boom than Francophones, with the result that there was a decrease in the difference in fertility rates; in the mid 1960s, there was a complete reversal in the fertility rates of the two groups. For the past twenty years, the fertility of Francophones has been lower than that of other Canadians. All factors now exert downward pressure on the proportion of Francophones: fertility below the replacement level henceforth lends its weight to the traditional factors of international migration and linguistic mobility.

In this decline, the effect of international migration is stronger than that of fertility, while - contrary to common belief - linguistic mobility has an almost negligible effect. In the case of children born from 1950 to the early 1980s, the decline from 30% to 23% in the proportion of the population with French as a mother tongue can be divided among international migration for almost four percentage points, the evolution of differential fertility for more than two points and insufficient passing on of the language for less than one point.

The decline in the proportion of the population with French as a mother tongue was not accompanied by a decrease in the percentage of people capable of speaking French: in 1986, as in 1951,

32% of Canadians indicated that they could carry on a conversation in French. The main explanation for the divergence of these two trends is the rise in the social status of French that has prompted a greater number of non-Francophones to learn the language. This is also the reason for parents bringing pressure to bear to obtain better French instruction for their children; the school systems have responded, in particular, by introducing French immersion classes. The enhanced status of French did not, however, prevent English from continuing its expansion: while in 1951 it was spoken by 79% of the population, it is now spoken by 83% of Canadians.

The decrease in the proportion of Francophones has been a significant trend since 1951. On the other hand, according to other indicators, there has been a strengthening of French since the end of the 1960s. The transmission of French to children is on the increase for homoglot couples (couples in which both partners have the same mother tongue; heteroglot couples have different mother tongues) whose mother tongue is French. Almost all children of such couples have French as their mother tongue. In addition, the knowledge of French as a second language among non-Francophones has been on the rise since 1961, and particularly since 1971. More importantly, among heteroglot couples in which the wife's mother tongue is French there has been an increase - slow from 1956-61 to 1967-71, and more rapid ever since - in the transmission of French as a mother tongue. English is still predominant over French, but to a lesser extent than in the past.

Groups, Languages and Regions

Superimposed on the linguistic duality of Canada is a territorial duality: nearly 90% of Francophones (according to language of use) live in Quebec, where they account for 83% of the population; 95% of Anglophones live in the other provinces, where they account for 88% of the population. The territorial duality is, however, moderated by three [of the five] regional groupings, in which the English and French groups each repre-

sent a significant proportion of the population. In a way, these territories form buffer zones between the Francophone and Anglophone regions of the country.

Located in Quebec, to the north and east of Montreal, the Francophone regions have a population that is almost entirely (96%) of French mother tongue; those of English mother tongue represent less than 3% of the population. The second regional grouping encompasses the southwestern portion of Quebec (Eastern Townships, Montreal, Ottawa Valley). In 1986, 74% of the population of these traditional regions of contact between the "founding peoples" was of French mother tongue, and 16% English. The third regional grouping is adjacent to Quebec in northern and eastern New Brunswick. Its population is small (381,000), but very heterogeneous: 58% is of French mother tongue,

41% English. Two regions in Ontario, one in the southeast and the other in the northeast, form the fourth regional grouping. These contact regions also border on Quebec; nearly 65% of the population is of English mother tongue, 27% French. The rest of the country forms an immense primarily English-speaking territorial grouping. A little more than two-thirds of the Canadian population resides in this area. Eight out of ten people have English as their mother tongue and nine out of ten speak English in the home. Those with French as their mother tongue account for less than 3% of the population and only 1% speak French in the home.

For half a century, trends in population structure according to mother tongue have been very clear in all linguistic regions except northern and eastern New Brunswick, where the situation is almost static. In the other four regions, the relative importance of the minority official language continues to decrease while that of the majority increases. For example, in the contact regions in Quebec, the English group has dropped from 23% in 1941 to 16% in 1986, whereas over the same period the French group rose from 69% to 74%. The trends are even clearer

in the contact regions in Ontario. From 1941 to 1986, the representation of the French group dropped from 37% to 27%, while that of the English group rose from 54% to 64%.

In terms of those who can speak each official language, the trends are all going in the same direction. As a result of the rise in bilingualism since 1961, and particularly since 1971, there has been an increase in all areas of the country in the proportion of the population capable of speaking French; and the same is true of English, even though in the contact regions in Quebec, the proportion of English speakers, which rose from 51% to 54% between 1971 and 1986, is currently lower than between 1931 and 1951, when the proportions were 62% and 56% respectively.

In general, over the past quarter of a century - particularly for the last fifteen years - there has been a reinforcement of both the territorial and linguistic dualities in Canada. While the proportion of the English population has grown at the expense of the French throughout the country, in almost all regions the linguistic majority, whichever it may be, has always strengthened its demographic position. As a result of the polarization of the French group in Quebec, its members live in regions where they are in the majority and where they represent a growing proportion of the population. In addition, there is an increase in French as a second language across the country. The situation is therefore closer to one of equality of the two official languages, but English nevertheless maintains its dominance because of the North American context and its majority status in the country as a whole.

Francophone and Anglophone Bilingualism in Canada

There has been an increase in bilingualism in the two main language groups since 1971. In terms of the entire country, bilingualism is still found more among Francophones than Anglophones; in 1986, Francophones had a rate of bilingualism four and a half times higher than Anglophones. The Anglo-

phones have, however, made considerable progress in learning French in Quebec and in the contact regions in New Brunswick and Ontario. There is also progress in the Anglophone regions, but the proportion of bilingual Anglophones is still low.

The frequency of bilingualism increases rapidly among young people, peaks, and then decreases in old age. The decline of bilingualism can be attributed to the erosion of language knowledge with age and the increase in bilingualism over time. Among Anglophones, the peak is reached in the 15-19 age group, while the Francophones peak somewhat later, between 20 and 34 years. From 1971 to 1986, there was a very significant increase in Anglophone bilingualism among those under the age of 20, while there was a modest increase in the other age groups. In the case of Francophones the trend is not as clear. For reasons that can undoubtedly be attributed to the political context of the period, the frequency of bilingualism dropped in certain age groups between 1971 and 1981.

In Quebec, the proportion of bilingual Anglophones rose in all age groups between 1971 and 1981, while the proportion of bilingual Francophones changed very little and even dropped for certain age brackets. In northern and eastern New Brunswick, the proportion of bilingual Anglophones rose almost equally in all age groups; among Francophones the proportion rose in the case of the young but remained the same in the older groups. Among Anglophones in the contact regions in Ontario, bilingualism rose very substantially among the very young, moderately in the intermediate age groups and the older groups remained unchanged. Among the Francophones in the same region, the situation was similar to that in northern and eastern New Brunswick. Finally, in the Anglophone regions, the frequency of Anglophone bilingualism rose only in the younger groups. With regard to the Francophones in these regions, they learn almost all their English at a very young age and maintain their knowledge for the rest of their lives.

An analysis according to certain socioeconomic parameters (profession, sector of activity, education, household income) indicates that, in general, bilingualism is more frequent at the top of the social ladder. The interpretation of this phenomenon varies, however, according to linguistic group. For Francophones throughout Canada, and for Anglophones in Quebec, bilingualism is probably a practical matter, while it would be more of a luxury for certain Anglophones living outside Quebec.

The increase in bilingualism among young Anglophones could be linked to a phenomenon that has recently gained considerable significance: French immersion education for students in English schools. There are different types of immersion programs, according to the number of years students spend in the program and the proportion of time devoted to French. The number of students registered in these programs has risen rapidly, from less than 40,000 in 1977-78 to nearly 225,000 in 1987-88. The relative importance of immersion programs depends, in part, on the proportion of Francophones in the population. The highest percentages of students registered in French immersion programs in English schools are in Quebec and New Brunswick. In certain regions in Ontario, particularly in the Ottawa region, immersion education is also very popular. Prince Edward Island and Manitoba have, relatively speaking, many students registered in French immersion, despite the relatively low proportion of Francophones in their populations.

Studies of the results of immersion programs have shown that students graduating from these programs have, in general, a relatively good knowledge of French, although their command of the language is inferior to that of a native French speaker. After graduation, it is not always possible for these students to use French at university or at work. Some universities offer a few courses in French, but even when they are available, Anglophone students are somewhat reluctant to take them. In the work force and in everyday life, the usefulness of

French depends on the presence or absence of Francophones. In all provinces where Anglophones comprise the majority, except in New Brunswick and Nova Scotia, there are fewer students in programs for French minorities than in immersion programs.

Socioeconomic Analysis of Linguistic Behaviour

This chapter considers the factors that influence individual and group linguistic behaviour. The analysis is based on an economic approach. Some ideas are presented only as hypotheses because there are no data to support them. In the job market, it can be expected that Francophone ownership of companies, as well as the education and increased purchasing power of Francophones, will be to the advantage of French, especially in Quebec. On the other hand, the increased importance of external markets and technological developments work against it. In the consumer goods market, Francophone purchasing power encourages the use of French, while the trend toward greater consumption of goods with a high information content places French at a disadvantage.

The electronic information media are the main vehicles by which cultural property is transmitted, and they therefore have a great influence on the fate of a language. Even if the Francophone population is served throughout Canada in French, the services available in English are almost always more numerous and more varied. In spite of the powerful attraction of English, a political context favourable to bilingualism could encourage the use of French in a minority context.

The "New Wave" of Immigrants to Canada: Trends in Country of Origin and Implications for the Future

Alan B. Simmons, York University

The following is a brief summary of a research project on trends in Canadian immigration and their future demographic and social implications.

The study is based on three research steps: a quantitative examination of recent trends in immigration policy and immigrant flow; an attempt to model empirically the forces which are associated with contemporary patterns of immigrant origins; and a qualitative assessment of likely future scenarios with respect to the evolution of these trends and forces.

Background

The characteristics of immigrants entering Canada have changed dramatically since the passage of new immigration legislation twenty years ago in 1967. Prior to 1967 Canadian policy had employed a nationality preference system to explicitly favour immigration from Europe. The revised law opened the door to people of all national origins by eliminating preferences for particular national groups. Since 1967 some 2.8 million immigrants have come to Canada (more than 10 percent of the current total population in Canada) and, as one would expect, the total inflow has come increasingly from new sources, particularly Asia, the Caribbean and other parts of the Third World. Whereas four-fifths of immigrants to Canada once came from Europe (or countries of European heritage, such as the United States), now almost three-quarters come from Africa, Asia, the Caribbean and Latin America.

Orienting Questions

What is the likelihood that trends over the past 20 years will continue? What are the implications of anticipated trends for Canada's population and for Canadian society more generally?

These questions may be addressed by examining trends in Canadian immigration, by identifying the forces associated with these trends in recent years, and by assessing the balance of pressures for continuation of current patterns against those pushing toward new patterns.

Hypotheses

It is useful to conceptualize immigration inflow to Canada as taking place within transformations of the "world system" through economic, social, political and demographic change. Immigration to Canada is determined by changes taking place in other countries as well as those taking place in Canada. The overall response of Canada is mediated by the reaction of diverse Canadian interest groups, specifically by their lobbying/support for particular kinds of immigration policy and their willingness to directly encourage/support/sponsor immigrants.

Following from the above, immigration to Canada may be understood as the outcome of the following processes:

- (1) The formation of a queue of potential immigrants to Canada in other countries. These potential immigrants are presumably motivated by the "push" of relatively adverse social, economic and political conditions at home, and by the "pull" of kin, friends, ethnic community relations, economic opportunity, etc. in Canada.
- (2) A "wall" of Canadian policy regulations which contains several "doors" through which immigrants may enter. Those in the queue divide into separate lines in front of each door, depending on their perception of the length of the queue and their ability to meet the (different) entry criteria at each one. Currently, the doors are: independent workers (and investors) whose skills/resource are required in Canada; refugees who are admitted for humanitarian reasons; and sponsored kin who are admitted for social and humanitarian reasons.
- (3) The size and shape of the entry doors are defined by internal political considerations which in turn reflect Canadian self-perceptions and goals as a nation on the world stage (this was undoubtedly the major force behind the 1967 legislation: for some years Canada has sought to be viewed as a leading nation, with open trade and cultural contact to the

rest of the world, and non-discriminatory on racial, ethnic and religious grounds). Internal political considerations also reflect various interest groups in Canada: minority groups in Canada seeking to strengthen their numbers; unions concerned about the impact of immigration on unemployment; etc. Policies at any moment arise through efforts by the state to moderate various internal pressures.

The system outlined above is complex and dynamic, with changes at one moment in time (say the decision to admit a new refugee group) having impacts on future trends (e.g., the new refugee groups may seek to sponsor kin).

Finding

(a) Recent trends

1. Canada has experienced wide annual fluctuation in total arrivals since 1967. The fluctuations in volume stem largely from Canadian policy arising from economic and employment considerations; for example, stagflation and unemployment in the early 1980's led to greatly reduced targets.

2. The greatest part of recent annual fluctuations is absorbed by the independent (workers and their families) class of immigration. Depending on economic conditions in Canada and current policy this class expands to a relative flood or is constrained to a trickle.

3. Refugee admissions are somewhat dependent on economic circumstances; yet in greater part they seem to flow from targets based on humanitarian and international political considerations which may have little to do with economic trends. Despite a slow-down in independent worker admissions in the early 1980, rising numbers of Vietnamese and Salvadorian refugees were admitted.

4. Sponsored kin are free from targets and restrictions, hence not surprisingly the number of immigrants who arrive through sponsorship (as family class mi-

grants) tends to be rather constant over time, even when the inflow of immigrants in other classes varies widely.

5. All classes of immigrants have been coming increasingly from Third World origins. There are some indications that the rising proportion of Third World immigrants in the total inflow is beginning to taper off, but at a very high level (around 75 percent of the total).

6. Immigrants from Asia have been increasing and now constitute about half of all those admitted to Canada; this interestingly enough is similar to the experience of the US and Australia. The proportion arriving to Canada from the Caribbean has stayed constant over the past 15 years or so (at about 10 percent). The proportion coming from Latin America has been increasing gradually from very low levels to more significant ones (it is now around 8 percent of the total). The inflow from Africa is smaller yet (about 6 percent recently) but it also has been rising gradually.

7. Immigrants from different parts of the world are distinctive from one another. The major differences, of course, concern their cultural, racial and religious heritage. One can also observe differences in gender composition (e.g., relatively few women come from Africa, while relatively many come from the Caribbean) and age composition (e.g., the Chinese and the Russians are most prone to sponsor aged relatives). Yet education and occupational skill levels do not differ widely. This is the result of Canadian selection policies which encourage the entry of younger adults with higher levels of education and advanced occupational skills.

8. Third World immigrants have higher fertility than the Canadian born which means that they contribute more significantly than their current numbers would imply to Canadian population growth and the current school-age population.

(b) Forces determining current patterns in country of origin.

The following findings are based on an empirical model in which an effort was made to "explain" the number of immigrants arriving to Canada in 1980-82 (separately by class of arrival) in terms of a variety of determining forces: some external to Canada, some internal, and other concerning linkages between Canada and countries abroad. The model was developed on the basis of data from the 42 most important immigrant sending countries (to Canada) and from another 24 countries selected from among those which send few.

1. Cost of moving. Distance between Canada and an origin country has no relationship to the number of immigrants who come. This is understandable given that independent immigrants are skilled in occupational terms (hence have their own resources to move); refugees are frequently sponsored by the government or other groups in Canada (and hence at least get loans to cover travel); while sponsored kin can count on the support of relatives for airfare.

2. Population size in the origin country. Immigrants to Canada are slightly more likely to come from a country with a larger population, yet the effect is restricted to family class arrivals. Other factors, described below, override any possible strong effect from population size alone.

3. Social and economic development levels in the country of origin do not influence patterns of immigration to Canada, at least not in any simple way. The fall in immigration from Europe is clearly based in slow population growth and relative economic affluence in that region. But a large number of immigrants still do come from Europe. Many very poor countries (e.g., those in Africa) in turn send very few immigrants. Thus, while the potential for immigration flows to Canada may vary with social and economic conditions, entry regulations and other constraints at the present time provide no basis for predicting which countries are likely to contribute more immigrants.

4. The use of English or French in the home country does have a significant impact on immigrant arrivals, particular for arrivals in the independent and family classes (but not in the refugee class).

5. Social-political turmoil leading to the flow of displaced persons within a country or refugee flows from it has an impact on refugee arrivals to Canada.

6. While Canadian refugee policy does not give priority to all refugee outflows identified by international agencies, it does focus on certain countries and regions. These countries and regions are, not surprisingly, more strongly represented in the refugee arrival stream.

7. Ethnic community in Canada. Independent and family class immigrants are more likely to come if there is a large national-origin groups already established in Canada through previous immigration.

8. Sponsorship propensities. Some national-origin groups are more likely to sponsor kin, and variation in this propensity does have a significant impact on family class arrivals. Asian national origin groups specifically and Third World origin groups more generally have the highest sponsorship propensities.

9. An empirical model based on the above forces explains a high proportion (82 percent) of the variation in immigrants arriving from one country to another. The explained variance is highest (84 percent) for independent immigrants; intermediate (71 percent) for family class immigrants; and lowest for refugees (62 percent).

(c) Assessment with respect to the future

1. The world system is dynamic and will lead to changes in pressures to immigrate to Canada. These pressures will emerge abroad, in Canada, and through changing links between Canada and other countries.

2. The currently functioning system and pattern of immigration from different countries developed in response to the 1967 legislation in conjunction with the forces indicated above. This system has strong self-reinforcing features and may be assumed to have considerable momentum to continue along the current path.

3. External and linkage forces in particular seem to lend themselves to a continuation of a high proportion of Third World immigrants in future inflows. Canada seems assured of an ample supply of well educated English speaking migrants; one of the few supply problems concerns that of finding a sufficient number of well educated Francophone migrants.

4. Under the current scenario the following consequences seem probable:

a. The European born population of Canada, which mostly arrived in the 1950's and 1960's, is large and approaching retirement. It is not being renovated by a sufficient number of new arrivals to ensure its replacement. The absolute number of European born in Canada peaked in 1971 and has subsequently declined. Over the next decade and even more rapidly after this, the European born population will diminish and ethnic communities and cultural groups which the European wave established will weaken. The focus of multiculturalism will shift further to the Third World origin groups who by then will be larger, relatively young, while still growing through new arrivals.

b. The shift in focus to new ethnic communities will not be evenly felt across Canada. Rather it will be concentrated in Canada's major cities (Montreal, Toronto, Vancouver) where post WWII immigrants settled and where more recent Third World migrants now reside.

c. Canadian society will continue to face significant challenge in seeking ways to avoid conflict between racial, linguistic and cultural groups as the total number of Third World immigrants and their descendants rise. About 5 percent of Ca-

nada's current population was born in the Third World; this figure is up from only 0.6 percent twenty years ago. Under current Canadian fertility and emigration trends the proportion of Third World born residents will, without great difficulty, rise above 10 percent over the next 20 years (i.e., by the year 2010)--this should take place even if there are periods of greatly reduced inflow in the future just as there have been in the recent past. The second generation of these immigrants (i.e., children born in Canada) is now approaching adulthood and will begin to create a third generation. The impact of these population dynamics on the size of "visible minorities" as well as ethnic, racial and related tensions will depend on patterns of cultural adaptation, inter-marriage and other social processes not covered in the present study.

The preceding arguments are based on research which is limited to recent history and restricted by available data. Future trends should be monitored as they develop to improve the model outlined here and to promote which seems to be a promising line of inquiry.

European Pro-Natalist Policies and Family Policy in Canada

Georges Mathews, Institut national de la recherche scientifique -Urbanisation

The West, and Western Europe in particular, is in the throes of a major demographic crisis. Such a low rate of fertility has never lasted for so long over such a vast area, and there are no indications that there will be a spontaneous reversal of this trend. Many ask if there is anything that can be done. One of the economists' and demographers' most persistent bromides is that the government, (in other words, the community) is powerless in the face of such a phenomenon. Yet by means of a policy of intervention, some Third World countries have succeeded in drastically reducing their rate of fertility. Couldn't the opposite be possible?

The question must not be misunderstood. It is not whether there can be another baby boom, but simply whether an average fertility rate of two (we can forget about the decimals) children per woman can be reached. Two European countries, France and the German Democratic Republic (GDR), have implemented ambitious family policies, and the results to date are convincing.

The French Policy

The first steps of the French policy date back to 1939. It was later improved and adapted in light of social evolution. The object of the policy is to significantly decrease the economic burden that the support and upbringing of children represent for parents. It therefore redistributes money from people who have no children or only one child to those who have at least two. Since the French policy includes a combination of measures for all families and measures exclusively for families with at least three children, this redistribution is done in two ways.

The first group of measures includes the young children's allowance, the tax system, maternity leave and the universal nursery school system that accommodates, for the entire day, almost all children from three years of age. The originality of the French tax system lies in the fact that tax is paid on the family income after an adjustment based on the number of children. Family allowances begin with the second child and amounts are higher for subsequent births. Maternity leave and tax benefits are also improved with regard to the third and subsequent births. For the last few years, there has also been a parental education allowance payable for three years to all mothers who leave the work force: it is approximately \$400 a month.

One-third of households in France receive family allowances; two-thirds of the total amount involved goes to 10% of the households. The net balance of benefits received and premiums paid is highly graduated according to the number of children. Through its family policy, the French government assumes

approximately 75% of the average direct cost of third children. This policy involves 3% of the gross national product, the highest proportion in the West.

For a long time, France had the lowest fertility rate in the West. However, since 1945, its rate has been the highest in Western Europe: 1.82 children per woman in 1987, which is markedly higher than the EEC average of approximately 1.5 children per woman.

The East German Policy

In 1975, the East German fertility rate was 1.54. In 1976, the government reacted to this by instituting three types of measures: maternity leave, day care, and access to housing. The most significant measure provided for an additional one-year maternity leave for second and subsequent births, paid at 70% of salary. There was a spectacular rise in fertility from 1975 to 1980, up to 1.95 children per woman, followed by a relative levelling off at 1.75. In 1984, other measures went into effect, some of which related to families with three or more children.

Contrary to a popular interpretation, this relative levelling off does not result solely from a decline in the rate of completed fertility. The evolution of fertility rates according to age reveals a very interesting phenomenon: nearly 90% of the rise in the annual fertility rate between 1975 and 1980 is concentrated in the 20-29 age group, and almost 90% of the drop between 1980 and 1985 is found among those under the age of 25. In 1985, the fertility rate for the 20-34 age group is clearly

higher than it was in 1975. The hypothesis that young women are having families at a younger age than previous generations cannot be accepted. In fact, in terms of the rate of completed fertility, the impact of the measures implemented in 1976 would translate into 0.3 children for certain generations. This is not insignificant.

The success of this policy lies in the fact that it is much more targeted than those of other countries, with the exception (as it happens) of France. Family allowances for first children, for instance, can hardly have a pro-natalist impact, but could be costly if the amounts are large. Consideration of the cost-benefit ratio would suggest a second-child (GDR) or third-child (France) policy, as would the fact that economic factors (in the broad sense) can play a not inconsiderable role in a decision whether or not to have a third child.

The increasing participation of women in the work force involves a significant rise in indirect costs as a result of children (loss of salary, child-care expenses). In these circumstances, the direction for a policy to maintain the fertility rate is clear: since resources are limited, significant measures are required that focus on the first years of children's lives, and then on subsequent births. Given the same resources, specific measures will have a more significant impact than universal measures.

The coherence of such a policy can be ensured if the "pro-natalist" part complements an advanced family policy.

The Canadian Policy

Family policy in Canada is not very advanced, even if there is not a total lack of interest. Let us consider the interaction between the tax system and family allowances. For our purposes, the net fiscal contribution of a child will be defined as the sum of the tax deductions and family allowances after tax that an additional child brings, everything else being unchanged, without taking child-care expenses into account. In Canada, this net fiscal contribution varied in general from \$800 to \$1,200 in 1987. It fluctuated, however, from one income category to another and from one child to another, but not in a consistent fashion. Low-income families receive more for their first and second children than middle-income families; however, the situation is reversed for third children (the effect of the federal child tax credit).

For low-income families, this net fiscal contribution represented nearly 40% of the minimum direct cost of first children, 35% for second and approximately 30% for third. For middle-income families, this contribution would be 25%, 27% and 32% respectively.

It is often said that children cost more as they grow older. This is not, however, accurate if the indirect costs or opportunity costs related to children are considered. That is where the shoe pinches, and there are two reasons for this. On the one hand, women under the age of thirty give birth to the large majority of children. This is at the stage when these women have just entered the labour force and the family income is low, especially since the new environment faced by young people is not very favourable. Despite current prosperity, the average salary in 1987 was 5% lower in real terms than that in 1976; and the evolution of family income according to age demonstrates that young people have suffered the most. In these circumstances, having children is not without risks.

On the other hand, what does the government do to reduce these risks? To judge by the current maternity leave plan, the answer is: not much. On paper, this plan, which pays fifteen weekly allowances representing 60% of salary (subject to a ceiling), does not compare well with those of most other Western countries. However, the reality is even less rosy. Only 55% of pregnant women in the labour force actually collect maternity allowances during the full regulation period: some are automatically excluded, others do not meet provincial conditions relating to job security, which are stricter than those for unemployment insurance. Furthermore, the women who are at a disadvantage in this respect, also are disadvantaged with regard to leave without pay. It is therefore not surprising that women are returning to work earlier and earlier after having their children.

It is much more difficult to define accurately the situation concerning child-care services. The number of children

for whom tax deductions are claimed for child-care expenses is growing rapidly. A relatively limited number of women do not work or work part time solely because of family constraints. There is an insufficient number of spaces in approved day-care centres, but the extent to which they are lacking is not accurately known. For obvious economic reasons, informal child-care services still play a major role.

The government already plays an important part in this area. However, through its tax exemptions, it in fact contributes more to the child-care expenses of higher income families. There is general agreement that additional efforts are needed, but not on the direction to be taken. Some want to continue with current directions after making improvements, while others eventually want a universal day-care system that is free of charge.

1988: A Good Year?

Nineteen eighty-eight will have seen no less than four significant modifications in the area of family policy. The tax reform introduced by Michael Wilson constitutes the only sour note, since it ratified previous decisions that reduced family benefits and continued further provisions along the same lines, with the result that the net fiscal contribution of children decreases from year to year for almost all families.

The maximum exemption for child-care expenses was doubled: paradoxically, the government rejected the idea of a tax credit in this area after having accepted it in the others! There are new prospects for parental leave as a result of a legal decision which requires the government, under the Charter of Rights and Freedoms, to double the length of paid leave. These measures, although insufficient, will reduce the indirect cost of young children.

Finally, there are winds of change blowing from the east with regard to family policy. The government of Quebec recognized in its May 1988 budget, the need for specific assistance for third chil-

dren. In fact, in contrast to the Wilson budget, this one contains a series of measures to improve the net fiscal contribution of children. However, it is the \$3,000 allowance, spread over the first two years following the birth of third children, that has caught people's attention.

What are the Priorities?

Any policy for maintaining the fertility rate must be based on three major approaches. First, coverage of the maternity-leave plan must be significantly expanded, the salary replacement rate increased and the method of calculating benefits modified to make it more attractive for wage earners at the bottom of the ladder. A 32-week leave would seem to be satisfactory, on condition that an additional leave without pay could be added on to it.

In terms of day-care services, the maximalist approach must be rejected because it is not adapted to the current situation, except in the case of school-age children. Part-time (or almost part-time) school is certainly an anachronism.

Politicians are always looking for no-cost solutions. There is one, and surprisingly enough it has not yet been seriously discussed. Starting primary school at the age of five rather than six would kill two birds with one stone, and it would cost nothing in the medium term.

With regard to pre-school child care, what already exists must be improved and it is essential that the tax exemption be changed to a tax credit. Also, instead of making stirring speeches that are not based on fact, close attention should be paid to the actual situation and its development.

To complete the triptych, there must be a measure to reduce the direct costs of young children: for the time being, we suggest an allowance of \$200 per month for third children during the entire pre-school period, which, according to our scenario, would end at age five.

These various measures constitute a beginning, not an end. A price must be paid to bring about a recovery in the fertility rate. Only the future will show to what extent this is possible.

